

# Chapter 1

## Field Methods Papers: Quick Reference Guide for LaTeX

Michael Diercks

Pomona College

Franny Brogan

Pomona College

Hazel Mitchley

Rutgers University

Here is where you write the abstract of the paper.

### 1 Introduction

**Note:** This document is specifically designed to be read as a [project on Overleaf](#): double clicking on specific content on the right side of your screen will show you the source code to the left. So you can read the formatted document on the right of the screen, then look to the left to see the code that generated it.

LaTeX is a typesetting program that takes a text document (with the file type `.tex`) and converts it to a typeset document that can be easily made into a PDF. Overleaf is a web-based app for writing in LaTeX. In Overleaf, the `.tex` document is in the middle side of your screen; this ‘code’ is compiled to generate typeset document is on the right, which can be downloaded as a PDF using the ‘Download PDF’ button at the top of the preview.

When writing a `.tex` document you directly annotate your text with commands that tell the program how to format the text. So if you want to write some-

*Change with `\papernote`*

thing in *italics* you write `\textit{italics}`, and if you want something **bolded** you write `\textbf{bolded}`.  $\LaTeX$  then converts that ‘code’ into what looks like italics and bold. In this Overleaf template, you can look at the .tex file itself to see what commands (‘code’) are used to create different kinds of formatting.

Double click on this sentence in the preview and see where the cursor moved to in the .tex document to the left of this preview, to see what a “comment” is using the % symbol.

## 1.1 What is $\LaTeX$ and why am I using it?

These are very good questions: short story, our research team is publishing with **Language Science Press** (LSP) for multiple reasons, chief of which is that it is Open Access, meaning that the books it publishes are available to download (for free) online. This is important because much academic work is hidden behind paywalls, and there are serious questions of inequity if our research on understudied/marginalized languages cannot be read by members of the communities that speak those languages.

However, LSP requires submissions in  $\LaTeX$ , so we are writing in  $\LaTeX$ .

## 1.2 What is this document?

This is a Quick Reference Guide for writing papers in  $\LaTeX$  for Field Methods classes with Prof. Diercks at Pomona College, distributed as **an Overleaf template**.

- This guide offers some basic introduction to  $\LaTeX$ , though it is not a full  $\LaTeX$  tutorial. For this, see **Pedro Martin’s tutorial**.
- This guide provides examples of formatting you may need for a field methods paper, e.g. tables, numbered examples, etc.
- If you clicked on “**Open as a Template**,” a copy of this project is now in your Overleaf account (i.e. it belongs to you), and you can now edit this document to be an actual paper that you write. This means there is no setup required, you can just erase this text and start typing your own paper, or use this document to practice and see what changes your edits make.<sup>1</sup>

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<sup>1</sup>This also means you will probably want to rename the document - you can do this by hovering your cursor over the title “Field Methods Paper Quick Reference Guide” at the top of this page, and then clicking on the pencil icon that appears to the right of the title. You can also rename the FieldMethodsQuickReference.tex file in the leftmost panel by clicking on the down arrow.

- Designing a  $\LaTeX$  project from scratch can be difficult; the point of this template is that this is already done for you, you can just start writing. The [Field Methods Paper Template](#) offers the same advantages without this (long) explanatory document.
- Don't worry about breaking anything - you can always open the template link again from Overleaf's website to see this initial version again. So edit away!

## 2 Some basic things you will want to know

This section *very* quickly outlines things you may want to know how to do to write field methods papers.

### 2.1 Useful commands for text formatting, some that we built for you

The chart below is structured with the most general sorts of text formatting first, with linguistics-specific symbols/formatting at the bottom.

Table 1: Selected commands for common ACAL formatting needs

Symbol/Annotation	Example	Code
Ellipsis	...	<code>\dots</code>
Subscript	$NP_i$	<code>NP\subs{i}</code>
Superscript	$NP^i$	<code>NP\supers{i}</code>
Bold	<b>bold</b>	<code>\textbf{bold}</code>
Italic	<i>italic</i>	<code>\textit{italic}</code>
Small Caps	SMALL CAPS	<code>\textsc{small caps}</code>
Strikeout	<del>strikeout</del>	<code>\sout{strikeout}</code>
Underline	<u>underline</u>	<code>\uline{underline}</code>
circle something in text	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">something</span>	<code>\circled{something}</code>
Highlight something	<span style="background-color: yellow;">something</span>	<code>\hl{something}</code>
Null	$\emptyset$	<code>\nothing</code>

- If you want to make a bulleted list, look at how this list is formatted in the .tex document using the “itemize” environment. Notice `\begin{itemize}` which starts the bulleted list, `\item` which introduces a bullet, and `\end{itemize}`, which ends the bulleted list.

- As you've already seen if you are paying attention to the .tex document on the left of your screen, sections, subsections, and sub-subsection are formatted with the commands `\section{}`, `\subsection{}`, and `\subsubsection{}`, respectively.
- Look at the .tex document to see how we bolded **this text** (and Overleaf has a shortcut to make it easy, Cmd-B on Macs, Ctrl-B on PCs). *Similarly for italics*, Overleaf provides a shortcut (Cmd-I on Macs, Ctrl-I on PCs).
- Write footnotes like this.<sup>2</sup>

## 2.2 How do I do X?

You likely will wonder how to do something that seems mysterious in  $\LaTeX$  but that is so simple in other applications. Google is your friend. Type “bulleted list in latex” into Google and you will quickly find instructions for a bulleted list, and you can use this method to find out how to do almost anything you need to do. If you still cannot figure out how to solve your  $\LaTeX$  puzzle, talk to your classmates, your TA, or Professor Diercks.

## 2.3 Heads up! Some potential pitfalls

For all of  $\LaTeX$ 's conveniences, there are some annoyances that are puzzling until you figure them out.

- Quotation marks are easy to get wrong. You want them to display “like this” and not ”like this,” so use the grave accent symbol above your tab key to type front quotes - use one for a single quote ‘like this’ and two for quotation marks “like this.” For reference, the grave accent is the one that appears on the mid vowel here: ò.
- Because a character like the percentage symbol % actually means something in  $\LaTeX$  (it creates a comment), you can't just use a percentage symbol on its own to mean a percentage symbol. Instead, you have to put a backslash in front of it, like we did in in the previous sentence (check out the .tex document, and also [this note](#) about other similar characters).
- It is very easy to forget to put the end bracket on a command. So you might write this `\hl{highlight this}` instead of `highlight this` (see the .tex) and your document will show an error. Thankfully Overleaf has warnings that pop up as you type if you have left a bracket open.

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<sup>2</sup>Hey, look at me, I'm a footnote.

- Because it's possible to write code that won't compile, it is recommended to compile your document frequently while writing. This way, when you make a mistake you won't have pages and pages to sort through to find where the mistake is. The keystroke `Cmd-S` (on Mac) and `Ctrl-S` (on PC) will instruct Overleaf to Recompile, we suggest making it a habit to do this frequently while you write.

### 3 Numbered examples

It is easy to create consecutively numbered examples:

- (1) This example is auto-numbered - if you uncomment the example above that is in green in the `.tex` document (by deleting the `%` before the example) and recompile, the numbering will change.

The `gb4e` package that Language Science Press uses for numbered examples allows for inter-linear glossing and translations:

- (2) this is a language example  
this is the morphological gloss  
'This is the translation.'

`gb4e` automatically aligns glosses with the language example (each white space means a different word). This is useful for non-English examples like the Lubukusu sentence in (3):

- (3) Wekesa se-a-la-ba a-kula ka-ma-indi ta.  
Wekesa NEG-1SM-FUT-be 1SM-buy 6-6-maize NEG  
'Wekesa will not be buying maize.'

Some things to notice in the `.tex` document for the examples above - an example is started with the `\ea` and ended with `\z` - omitting either of these will generate an error. The language and gloss lines are started with the command `\gl`, with line breaks (`\`) ending both the language line and the gloss line. The translation line is introduced with the command `\gl t`, and notice that there is no line break at the end of the translation line. If you want to label an example as coming from a specific language, Language Science Press uses the `\langinfo{ }{ }` command that is commented out in example (3).

If you want multiple data examples to appear in one numbered example, you use the `xlist` environment to create a sublist, which you can see in the `.tex` document by double clicking on the example below in the preview:

- (4) a. This is the first example.  
b. hii ni m-fano w-a pili, kwa Ki-swahili  
this is 3-example 3-ASSOC second, of 7-Swahili  
‘This is a second example, in Swahili.’

Again, some details to notice in (4): first, notice the commands `\begin{xlist}` and `\end{xlist}` that begin and end the sublist inside the example. It is important that the sublist be generated *inside* the numbered example, so `\begin{xlist}` comes after `\ea` and `\end{xlist}` comes before `\z`. Each example inside the sublist is introduced with the command `\ex`, and each of these examples uses normal `gb4e` formatting. So you can see that the code to generate (4b) is the same as was used to generate (3).

In many linguistics publications, *all* diagrams and data are presented as numbered examples (e.g. trees, tableaux, charts, sentences with interlinear glosses, data sets of words). However, in Language Science Press tables are created as Tables instead of numbered examples (see §7.1 and §7.2).<sup>3</sup>

## 4 Using cross-references

It is useful to be able to refer your reader to different sections/examples in your paper: for example, we may want to tell you that examples (3) and (4) are built using `gb4e`, or that if you want to learn about fonts you should read §5. There are two components of a cross-reference in text:

1. You must label a particular section or example that you intend to refer to using the command `\label{LabelName}`, where “LabelName” has some predetermined portions as well as a portion where you use some text description to describe the thing you are labeling:<sup>4</sup>
  - Section label: `\label{sec:author:yourlabel}`
  - Table label: `\label{tab:author:yourlabel}`

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<sup>3</sup>Syntactic trees are formatted as figures with LSP, but we won’t need trees for field methods papers.

<sup>4</sup>These commands are not standard for  $\text{\LaTeX}$ , they are specifically part of LSP’s template.

- Figure label: `\label{fig:author:yourlabel}`
  - Example label: `\label{ex:author:yourlabel}`
2. You must then use one of these commands to create the cross-reference.
- Section reference (will read ‘§#’ in output):  
`\sectref{sec:author:yourlabel}`
  - Table reference (will read ‘Table #’ in output):  
`\tabref{tab:author:yourlabel}`
  - Figure reference (will read ‘Figure #’ in output):  
`\figref{fig:author:yourlabel}`
  - Example reference with parens — note caps (will read ‘(#)’ in output):  
`\REF{ex:author:yourlabel}`
  - Example reference without parens — note caps (will read ‘#’ in output):  
`\ref{ex:author:yourlabel}`
3. Some examples:<sup>5</sup>
- the Swahili example above can be referenced as (4b). If I wanted to refer to it without parentheses, I can use this command: 4b.
  - The aforementioned examples occur in §3, which describes how to use numbered examples.
  - In §7.1, Table 4 shows how to center-align text in cells of a table.
  - These are some selected examples - throughout the entire document you will see these kinds of cross-references being utilized, so you can look at numerous examples if you so wish.

Notably, you can only use any of the reference commands (e.g. the command for numbered examples, `\REF{LabelName}`) with labels that already exist somewhere in your paper - attempting to build a cross-reference to a label that does not exist will not stop your document from compiling, but it will result in a Yellow Warning from Overleaf next to the Recompile button, and it will result in question marks where the cross-reference ought to be, like this: (??).

These cross-references are auto-generated every time you compile your document, so as your section/example numbers change as you write your paper,

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<sup>5</sup>Look at the .tex on the left to see how to write the commands, and click the hyperlinks in the cross-references to take you to the portion of the document where the label is created.

the cross-references update themselves.

## 5 Using IPA symbols

(5)  $\delta$ is iz hæv tu rait in  $\text{?aɪpɪjeɪ}$ . (This is how to write in IPA.)

This template is built on Language Science Press’s template, which which allows you to enter IPA symbols directly into your .tex document and it appropriately typesets it when creating a PDF. This doesn’t tell you how to type the IPA symbols in the first place, though. This requires a non- $\text{\LaTeX}$  solution.

- **Recommended:** [SIL IPA keyboard](#) is downloadable on Mac and PC and gives you keystrokes for inserting IPA characters.<sup>6</sup>
- [IPA Palette](#)
- [Online IPA keyboard](#) where you can type symbols and then copy/paste them into your document
- The web app [detexify](#) is a handy tool that allows you to draw the symbol you want and it shows you what packages you need for that symbol, and what commands create it in  $\text{\LaTeX}$ .
- The web app [shapecatcher](#) does something similar; you draw the symbol you want and it identifies possible matches and their unicode identifiers.

## 6 Citing References

This section is not a proper introduction to all of how citations and bibliographies work in  $\text{\LaTeX}$ . Rather, we attempt to give you the basics you need to know in order to generate citations and a bibliography for a field methods paper.

### 6.1 How bibliographies work

You will notice on the left side of the Overleaf display there is a list of files. The file titled “localbibliography.bib” is the bibliography file, and contains references that can be cited in your document. Click on it to see what a  $\text{\LaTeX}$  reference list looks like, and then click on “FieldMethodsQuickReference.tex” to come back here.

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<sup>6</sup>FYI there’s no way to type a ‘ $\delta$ ’ via this keyboard (as far as we know), so utilize one of the methods below.



As you write, you can type commands into your text which will do two things: first, it will generate citations in the text to the paper you cite; second, when your document compiles it will add that reference to your bibliography at the end of your paper. So if you want to make reference to [Bresnan & Mchombo \(1987\)](#), enter the citation command (see the .tex document), which references the file bibliographic entry in “localbibliography.bib” and generates the appropriate citation here in this paragraph, and adds the [Bresnan & Mchombo](#) paper to the bibliography at the end of this document.

The subsections that follow explain in more detail how to do this in your own paper.

## 6.2 Building a bibliography in a .bib file

There are many ways to build your reference list: we outline two major ones here.<sup>7</sup>

First, if you have already created bibliographic references, you can use [Nordhoff \(2018\)](#) (which is located [here](#)) to convert those references to a format appropriate for  $\LaTeX$ . You can then copy and paste those references into “localbibliography.bib” which makes them available to cite in your paper.

Second, you can download a reference manager, which produces reference lists that look like what you see in “localbibliography.bib” but which gives you a user-friendly interface. If you are using a Mac, [BibDesk](#) is an excellent application that will manage your citations - a brief introductory video is [available on Youtube](#). If you are using a PC, we recommend using [Jabref](#), which has the same functionality. Those reference managers will allow you to build a .bib file, which can be copied/pasted into “localbibliography.bib.”

## 6.3 What is a cite key?

If you use the [Bib converter](#), you will notice that the first line of a bibliographic entry is auto-generated as “AuthorDate” which is “Bloomfield1925” in the example below (which is the first example in the [Bib converter](#) sample).

```
@article{Bloomfield1925},  
  author = Bloomfield, Leonard,
```

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<sup>7</sup>If you consistently write in  $\LaTeX$  you eventually would build a large .bib file that you use on every project; our goal in this explanation is mainly to help novices learn enough to write their current paper.

```
journal = Language,  
number = 4,  
pages = 130–156,  
title = On the sound-system of central Algonquian,  
volume = 1,  
year = 1925  
}
```

This circled text above is the “cite key,” which is an identifier that you use to cite that reference (this can in fact be any string of text that you choose).

## 6.4 Citing sources

The two most important citation commands are `\citet{}` and `\citep{}`. The cite key of the reference goes between the curly brackets.

- For ‘Author (Date)’ format, use `\citet{}`.  
e.g.: writing `\citet{Lahiri2000}` produces **Lahiri (2000)**
- For a parenthetical citation, use `\citep{}`.  
e.g.: writing `\citep{Lahiri2000}` produces **(Lahiri 2000)**

Both of these commands can be modified to add extra information.

- To add a page number after the year, put the page number in square brackets *before* your curly brackets.  
e.g.: `\citep[87]{Doke1923}` produces **(Doke 1923: 87)**
- To add information before the citation, put this in square brackets before the brackets with the page number.  
e.g.: `\citep[Zulu, ][87]{Doke1923}` produces **(Zulu, Doke 1923: 87)**
- If you want information before the citation, but without a page number, just leave the page number blank.  
e.g. `\citep[Zulu, ][] {Doke1923}` produces **(Zulu, Doke 1923)**
- Multiple cite keys separated by commas will produce multiple citations.  
e.g. `\citep{Doke1923, Lahiri2000}` produces **(Doke 1923; Lahiri 2000)**

You can check out this [helpful reference sheet](#) that gives many details about citation commands for any additional variants that you want.

If you need help getting your references set up, please contact Prof. Diercks, or the course TA.

## 7 Tables

### 7.1 Basic tables

Tables are very useful for formatting data and examples, but counter-intuitive to produce in LaTeX as compared to in familiar word processors. This section lays out the basics; see §7.2 for additional formatting tricks. You can also check out [this useful wiki](#) on how to construct LaTeX tables if you want some additional information.

The `tabular` environment is used to typeset tables. By default, LaTeX tables are drawn without any vertical or horizontal lines and column width is predetermined; this means that any settings beyond these defaults must be defined by you. Per LSP’s guidelines, tables should have vertical borders in field methods papers. Let’s take a look at some simple examples below. Please note, tables are moved around by LaTeX in the typeset document on the right of your screen to where they typeset most naturally, so you may have to look to the next page for a table. Also, please pay attention to the commented-out text that appears in green in the `.tex` document around each table’s code, because we have explained what each part of the code for the table does.

Let’s start with a basic 3x3 table with single horizontal borders. Take a look at the `.tex` doc to see how borders and column alignment are specified (i.e. whether your text is aligned on the left, right, or in the center of the column) for Table 2 below.

Table 2: A descriptive caption here

cell 1	cell 2	cell 3
cell 4	cell 5	cell 6
cell 7	cell 8	cell 9

If you want to remove the horizontal borders, try commenting out the commands `\hline` in the table above; this will remove the horizontal borders.

Table 3 is a table that’s identical to the one above, but with column headers separated by a double horizontal line. Take a look at the code in the `.tex` document to see how it’s different from the code that generated the table above.

Finally, Table 4 is a table identical to the one above, but with text center-aligned.

Table 3: This table separates headers with a double line

Header 1	Header 2	Header 3
cell 1	cell 2	cell 3
cell 4	cell 5	cell 6
cell 7	cell 8	cell 9

Table 4: This table has center-aligned text

Header 1	Header 2	Header 3
cell 1	cell 2	cell 3
cell 4	cell 5	cell 6
cell 7	cell 8	cell 9

## 7.2 Advanced tables

In §7.1, we showed you how to generate basic tables in  $\LaTeX$ . This section provides guidelines for a few (mostly stylistic) modifications that may be useful for you. For a comprehensive “how-to” guide, see Overleaf’s fantastic [tables tutorial](#), or [this wiki](#).

### 7.2.1 Controlling basic table formatting

- **Manually define column width.** Thus far, our column width has been determined by the widest cell. By using `p{}` when specifying your parameter, you can manually define the width of each individual column, inducing line breaks and/or justified columns.

Table 5: Now my columns are wider

Header 1	Header 2	Header 3
cell 1	cell 2	cell 3
cell 4	cell 5	cell 6
cell 7	cell 8	cell 9

- **Control horizontal borders.** Simply remove any `\hline` commands where you don’t want horizontal borders:

Table 6: Now my columns are narrower

Header 1	Header 2	Header 3
cell 1	cell 2	cell 3
cell 4	cell 5	cell 6
cell 7	cell 8	cell 9

Table 7: I'm a table without any borders at all

Header 1	Header 2	Header 3
cell 1	cell 2	cell 3
cell 4	cell 5	cell 6
cell 7	cell 8	cell 9

### 7.2.2 Combining columns and rows in tables

Columns and rows can be combined in a bigger cell using the `\multicolumn{}{}{}` and `\multirow{}{}{}` commands.

The `\multicolumn{}{}{}` command takes three arguments:

1. The number of columns to be combined
2. Delimiters and alignment of the resulting cell - i.e. do you want borders, and whether it's left-, center-, or right-aligned
3. Text to be displayed inside the cell

In Table 8 we see that the columns making up the top row have been combined into one using the `\multicolumn{}{}{}` command.

The `\multirow{}{}{}` command also takes three arguments, but note that the second one is different than for `\multicolumn{}{}{}`:

1. The number of rows to be combined
2. The width of the column
3. Text to be displayed inside the cell

In the Table 9, we see that the rows in the first column have been combined:

Notice in the code above that for each multi-row cell, it must be paired with the equivalent number of rows in any other columns.

Table 8: Using multicolumn

Pomona/Pitzer Linguistics Professors		
Name	Initials	Name in IPA
Carmen	CF	'kɑ:.mən
Mary	MP	'mɛ:.i
Mike	MD	'maɪk
Nicole	NH	nə.'kɒl
Robin	RM	'rɑ:.bən
Franny	FB	'fɹæ.ni

Table 9: Using multirow

Subfield	Professor(s)
Sociolinguistics	Carmen
	Nicole
	Franny
	Robin
Phonology	Mary
	Franny
Phonetics	Nicole
	Franny
Syntax	Mike
	Robin
Fieldwork	Mary
	Mike
Psycholinguistics	Robin

## 8 Conclusion

This guide highlights the main kinds of formatting you will need for Field Methods papers, but you may well run into formatting questions not discussed here. There are a host of relevant resources online, and if you hit a confusing puzzle you can almost always google “my problem latex” and find relevant articles on Stackexchange and other similar sites. This guide is not meant to be comprehensive at all, but rather is meant to introduce novices to the central issues. If you have questions, please contact Professor Diercks or your TA.

## Abbreviations

To be added later.

## Acknowledgements

Acknowledgements should be listed here.

This [Quick Reference Guide](#) and the [corresponding Paper Template](#) borrow directly (with permission) from corresponding documents written by Michael Diercks and Franny Brogan for linguistics students at Pomona College, and from the in-development  $\LaTeX$  template for proceedings papers for ACAL (Annual Conference on African Linguistics). These templates are built on Language Science Press’s Overleaf template (for eventual publishing with LSP), and are published on Overleaf with LSP permission. Our thanks to Sebastian Nordhoff for his feedback on earlier versions of this template. Diercks’ original  $\LaTeX$  teaching materials were created with assistance from Claire Halpert, Nico Baier, Jason Zentz, Maddy Bossi, and Mica Clausen. Our gratitude also to the ACAL  $\LaTeX$  committee for their input to the ACAL template, which also found its way here (especially Peter Jenks, Ken Steimel, and Matthew Faytak).

## References

- Bresnan, Joan & Sam Mchombo. 1987. Topic, pronoun, and agreement in Chichewa. *Language* 63. 741–782.
- Doke, Clement M. 1923. A dissertation on the phonetics of the Zulu language. *Bulletin of the School of Oriental and African Studies* 2(4). 687–729.

*Michael Diercks, Franny Brogan & Hazel Mitchley*

Lahiri, Aditi (ed.). 2000. *Analogy, leveling, markedness: Principles of change in phonology and morphology* (Trends in Linguistics 127). Berlin: Mouton de Gruyter.

Nordhoff, Sebastian. 2018. *Bibtex generator*. <http://glottotopia.org/doc2tex/doc2bib>. Follow the link to generate BibTeX.