

# L<sup>A</sup>T<sub>E</sub>X

## A Document Preparation System

2014



L<sup>A</sup>T<sub>E</sub>X



### Outline

#### Introduction

- What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?
- WYSIWYG vs Markup
- Why use L<sup>A</sup>T<sub>E</sub>X?

#### Syntax

#### Doc layout

- Classes
- L<sup>A</sup>T<sub>E</sub>X packages
- Main document
- Headings
- Paragraph text
- Math
- Cross references
- Lists
- Tables and figures

#### Bibliography

#### L<sup>A</sup>T<sub>E</sub>X installation

#### Stellenbosch

#### Links

**Danie Els**

*Dept of Mech & Mechatron Eng, Stellenbosch University*



## Outline

### Introduction

What is  $\text{\TeX}$  and  $\text{\LaTeX}$ ?  
WYSIWYG vs Markup  
Why use  $\text{\LaTeX}$ ?

### Syntax

### Doc layout

Classes  
 $\text{\LaTeX}$  packages  
Main document  
Headings  
Paragraph text  
Math  
Cross references  
Lists  
Tables and figures

### Bibliography

### $\text{\LaTeX}$ installation

### Stellenbosch

### Links

- 1 Introduction
- 2  $\text{\LaTeX}$  command syntax
- 3 Basic  $\text{\LaTeX}$  document layout
- 4 Bibliography
- 5  $\text{\LaTeX}$  installation
- 6 Stellenbosch
- 7 Links



## What is T<sub>E</sub>X?

T<sub>E</sub>X is a typesetting system written by Donald E. Knuth, who says in the Preface to his book on T<sub>E</sub>X that it is *“intended for the creation of beautiful books — and especially for books that contain a lot of mathematics.”*

T<sub>E</sub>X is a macro processor, and offers its users a powerful programming capability. T<sub>E</sub>X on its own is a pretty difficult beast to deal with, so Knuth provided a package of macros for use with T<sub>E</sub>X called Plain T<sub>E</sub>X;

$$\frac{\partial \rho}{\partial t} = \operatorname{div}(\rho \bar{\mathbf{v}})$$

$$\rho \frac{D \bar{\mathbf{v}}}{Dt} = \rho \bar{\mathbf{g}} + \frac{\partial}{\partial x_j} \left[ \mu \left( \frac{\partial v_i}{\partial x_j} + \frac{\partial v_j}{\partial x_i} \right) + \delta_{ij} \lambda \operatorname{div} \bar{\mathbf{v}} \right]$$

$$\rho \frac{De}{Dt} = \operatorname{div}(k \nabla T)$$

Outline

Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

Syntax

Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

Stellenbosch

Links



## What is L<sup>A</sup>T<sub>E</sub>X?

- L<sup>A</sup>T<sub>E</sub>X is a T<sub>E</sub>X macro package, originally written by Leslie Lamport, that provides a document processing system. L<sup>A</sup>T<sub>E</sub>X allows markup to describe the structure of a document, so that the user need not think about presentation. By using document classes and add-on packages, the same document can be produced in a variety of different layouts.
- L<sup>A</sup>T<sub>E</sub>X is for producing scientific and mathematical documents of high typographical quality and is also suitable for producing all sorts of other documents, from simple letters to complete books.
- L<sup>A</sup>T<sub>E</sub>X is *not* a word processor! Instead, L<sup>A</sup>T<sub>E</sub>X encourages authors not to worry too much about the appearance of their documents but to concentrate on getting the right content.

Outline

Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

Syntax

Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

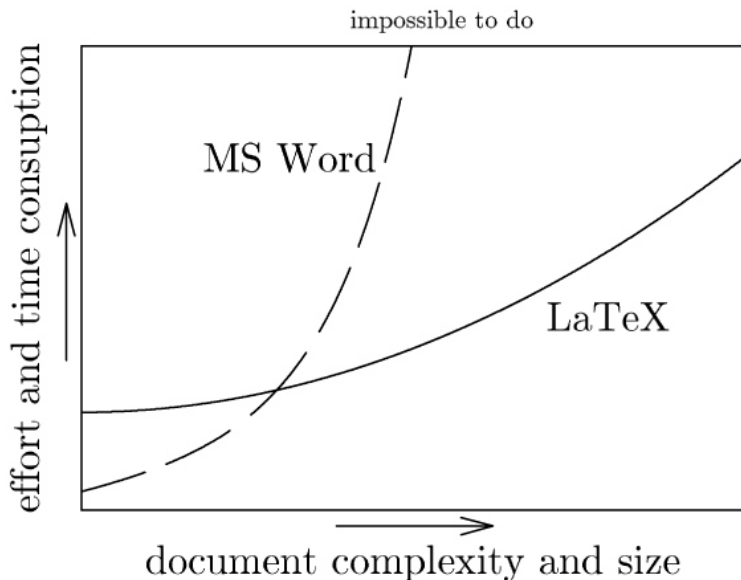
Tables and figures

Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

Stellenbosch

Links



Outline

Introduction

What is  $\text{\TeX}$  and  $\text{\LaTeX}$ ?

WYSIWYG vs Markup

Why use  $\text{\LaTeX}$ ?

Syntax

Doc layout

Classes

$\text{\LaTeX}$  packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

$\text{\LaTeX}$  installation

Stellenbosch

Links



## Word processors (WYSIWYG)

- Microsoft Word, Open Office, etc.
- Have a WYSIWYG interface hiding the markup.
- They're perceived to be easier than  $\text{\LaTeX}$ , but ...

## Markup languages

- Written in normal text with markup in a text editor.
- Needs to be interpreted or compiled (programming language)
  - HTML
  - $\text{\LaTeX}$
- Contents separated from format; uses style sheets to change appearance.

Outline

Introduction

What is  $\text{\TeX}$  and  $\text{\LaTeX}$ ?

WYSIWYG vs Markup

Why use  $\text{\LaTeX}$ ?

Syntax

Doc layout

Classes

$\text{\LaTeX}$  packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

$\text{\LaTeX}$  installation

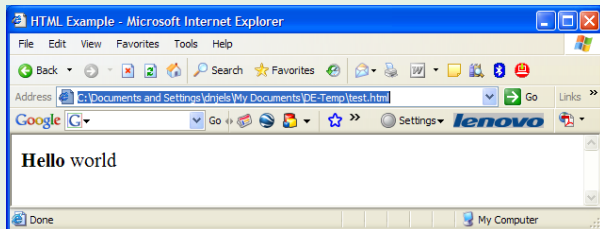
Stellenbosch

Links

## HTML Example

```
<html>
  <head>
    <title>HTML Example</title>
  </head>
  <body>
    <p>
      <b>Hello</b> world
    </p>
  </body>
</html>
```

## Output



```

\documentclass{article}
\begin{document}
  If  $f(x)=3x+7$  and  $g(x)=x+4$  then
  \begin{equation}
    f(x) + g(x) = 4x + 11
  \end{equation}
  and
  \begin{equation}
    f(x)g(x) = 3x^2 + 19x + 28.
  \end{equation}
\end{document}

```

## Output

If  $f(x) = 3x + 7$  and  $g(x) = x + 4$  then

$$f(x) + g(x) = 4x + 11 \tag{1}$$

and

$$f(x)g(x) = 3x^2 + 19x + 28. \tag{2}$$



## Outline

### Introduction

What is TeX and LaTeX?

WYSIWYG vs Markup

Why use LaTeX?

### Syntax

### Doc layout

Classes

LaTeX packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

### Bibliography

### LaTeX installation

### Stellenbosch

### Links



*Create  
and edit  
document*

myfile.tex

```
\documentclass{article}
\begin{document}
  Hello world
\end{document}
```

*Compile*

>latex myfile.tex

>pdflatex myfile.tex

*View and  
print*

myfile.dvi

Hello world

myfile.pdf

Hello world

```
>dvips myfile.dvi
>ps2pdf myfile.ps
```

L<sup>A</sup>T<sub>E</sub>X



Outline

Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

Syntax

Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

Stellenbosch

Links

- Very high quality documents.
- The most sophisticated math typesetting engine available.
- Sophisticated page, paragraph and line breaks with hyphenation.
- Micro typographical ligatures, letters spacing, hanging punctuation, etc.
- Floating figures for optimal page layout with graphics and tables.
- Easy cross referencing of equations, figures, etc. with hyperref links.
- Powerful linkage to bibliography databases, citing mechanisms and bibliography formatting.
- Automatic tables of contents.
- Automatic language settings.
- *Did I mentioned very high quality documents.*



### Outline

#### Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

#### Syntax

#### Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

#### Bibliography

#### L<sup>A</sup>T<sub>E</sub>X installation

#### Stellenbosch

#### Links



Kerning

Table, Avant

Table, Avant

Ligatures

fire, office

fire, office

Letterspace

D a n i e

Danie

True small caps

CAPE TOWN

CAPE TOWN

Hanging Punct

derstand anything. So much so  
that those who saw him exclaimed:  
“What a burden he’ll be to his fa-  
ther!” Now when there was any-  
thing to be done, the eldest had



Outline

Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

Syntax

Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

Stellenbosch

Links



## Active chars # \$ % ^ & \_ { } \

\ – escape char to activate commands

\$ – activate math

% – comment char

## Special chars

\”{e}, {\0} – gives ë, Ø

## Inline commands

\rmfamily, \itshape, etc.

## Macros

\section{Syntax} – cmdnd with argument

\func[x]{cos} – cmdnd with optional arg

## Environments

\begin{itemize}

\item ...

\end{itemize}

Outline

Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

Syntax

Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

Stellenbosch

Links



## Outline

### Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

### Syntax

### Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

### Bibliography

### L<sup>A</sup>T<sub>E</sub>X installation

### Stellenbosch

### Links

```
\documentclass[a4paper,12pt]{article}
```

```
% Preamble -----
```

```
\usepackage{amsmath}
```

```
% Beginning of main document -----
```

```
\begin{document}
```

```
\section{Functions}% Heading ----
```

In equation (`\ref{eq:a}`) the quadratic function of  $x$  is shown as

```
\begin{equation}
```

```
f(x)=ax^2 + bx + c
```

```
\label{eq:a}
```

```
\end{equation}
```

It can be shown that  $x \geq \sqrt{\alpha}$  and ...

```
\end{document}
```

## Output

### 1. Functions

In equation (1) the quadratic function of  $x$  is shown as

$$f(x) = ax^2 + bx + c \quad (1)$$

It can be shown that  $x \geq \sqrt{a}$  and ...

Outline

Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

Syntax

Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

Stellenbosch

Links

L<sup>A</sup>T<sub>E</sub>Xclasses

```
\documentclass[a4paper,12pt]{article}
```

Specify the basic formatting of the document: Type block, headers, title page, paragraph indents and spacing, etc.

Optional settings for paper size, font size, etc.

- **article, report, book:** Standard L<sup>A</sup>T<sub>E</sub>X classes
- **memoir, koma:** Other useful specialized classes
- **amsart, elsivier, etc.:** Journal classes
- **usthesis:** Stellenbosch thesis class

## Outline

## Introduction

[What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?](#)[WYSIWYG vs Markup](#)[Why use L<sup>A</sup>T<sub>E</sub>X?](#)

## Syntax

## Doc layout

## Classes

[L<sup>A</sup>T<sub>E</sub>X packages](#)[Main document](#)[Headings](#)[Paragraph text](#)[Math](#)[Cross references](#)[Lists](#)[Tables and figures](#)

## Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

## Stellenbosch

## Links



## L<sup>A</sup>T<sub>E</sub>X packages

```
\usepackage{amsmath}
```

There are hundreds of different packages available on CTAN for any thing you can think of. Some useful packages for theses are:

- **amsmath**: Advanced mathematical typesetting
- **hyperref**: Hyper links in PDF documents
- **graphicx**: Inclusion of graphics
- **array**: For tables and arrays
- **siunitx**: Type setting of units and numbers
- **fourier**: A very nice complete font set
- 
- 

### Outline

#### Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

#### Syntax

#### Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

#### Bibliography

#### L<sup>A</sup>T<sub>E</sub>X installation

#### Stellenbosch

#### Links





## Outline

## Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?  
WYSIWYG vs Markup  
Why use L<sup>A</sup>T<sub>E</sub>X?

## Syntax

## Doc layout

Classes  
L<sup>A</sup>T<sub>E</sub>X packages  
Main document

## Headings

Paragraph text  
Math  
Cross references  
Lists  
Tables and figures

## Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

## Stellenbosch

## Links

## Main document

```
\begin{document}  
    ....  
\end{document}
```

This is the main contents of the document.

## Headings

```
\section{Functions}
```

L<sup>A</sup>T<sub>E</sub>X has a hierarchy of headings

- **\part**
- **\chapter**
- **\section, \subsection, \subsubsection**
- **\paragraph, \subparagraph**



## Paragraph text

In equation (`\ref{eq:a}`) the quadratic function of  $x$  is shown.

This is a new paragraph.

A new paragraph is terminated by an open line in the text.

## Math

```
\begin{equation}
  f(x)=ax^2 + bx + c
\end{equation}
```

Mathematics can be written inline as  $x=3$  or as display math as in example above.

*The AMS math package gives a wealth of different ways to format difficult equations and please RTFM!*

Outline

Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

Syntax

Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

Stellenbosch

Links



## Cross references

In equation (`\ref{eq:a}`) the quadratic function of  $x$  is shown

```
\begin{equation}
  f(x)=ax^2 + bx + c
  \label{eq:a}
\end{equation}
```

## Output

In equation (1) the quadratic function of  $x$  is shown

$$f(x) = ax^2 + bx + c \quad (1)$$

The `\label{...}` and `\ref{...}` commands provide a very powerful way to cross ref all the sectioning levels, equations, figures and tables, etc.

Outline

Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

Syntax

Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

Stellenbosch

Links



## Enumerate:

```
\begin{enumerate}  
  \item The first item  
  \item The second item  
\end{enumerate}
```

## Output

1. The first item
2. The second item

## Itemize:

```
\begin{itemize}  
  \item The first item  
  \item The second item  
\end{itemize}
```

## Output

- The first item
- The second item

## Description:

```
\begin{description}  
  \item[First] item  
  \item[Second] item  
\end{description}
```

## Output

First item  
Second item

Outline

Introduction

What is TeX and LaTeX?

WYSIWYG vs Markup

Why use LaTeX?

Syntax

Doc layout

Classes

LaTeX packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

LaTeX installation

Stellenbosch

Links



## Figures

```
\begin{figure}
  \includegraphics{myfigure}
  \caption{A beautiful figure}
  \label{fig:1}
\end{figure}
```

Figures can be included from external files (or generated inside  $\text{\LaTeX}$ ). They float to where  $\text{\LaTeX}$  find it best.

- $\text{\LaTeX}$ : PostScript
- $\text{PDF}\text{\LaTeX}$ : PDF, PNG, JPEG, MPOST

### Outline

#### Introduction

What is  $\text{\TeX}$  and  $\text{\LaTeX}$ ?

WYSIWYG vs Markup

Why use  $\text{\LaTeX}$ ?

#### Syntax

#### Doc layout

Classes

$\text{\LaTeX}$  packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

#### Bibliography

#### $\text{\LaTeX}$ installation

#### Stellenbosch

#### Links

## Tables

```
\begin{table}
\begin{tabular}{l*{6}{c}r}
\hline
Team                & P & W & D & L & F   & A   & Pts \\
\hline
Manchester United & 6 & 4 & 0 & 2 & 10  & 5   & 12 \\
Celtic            & 6 & 3 & 0 & 3 & 8   & 9   & 9 \\
Benfica          & 6 & 2 & 1 & 3 & 7   & 8   & 7 \\
\hline
\end{tabular}
\end{table}
```

## Output

Team	P	W	D	L	F	A	Pts
Manchester United	6	4	0	2	10	5	12
Celtic	6	3	0	3	8	9	9
Benfica	6	2	1	3	7	8	7



### Outline

#### Introduction

- What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?
- WYSIWYG vs Markup
- Why use L<sup>A</sup>T<sub>E</sub>X?

#### Syntax

#### Doc layout

- Classes
- L<sup>A</sup>T<sub>E</sub>X packages
- Main document
- Headings
- Paragraph text
- Math
- Cross references
- Lists

#### Tables and figures

#### Bibliography

#### L<sup>A</sup>T<sub>E</sub>X installation

#### Stellenbosch

#### Links

The BibTeX companion program makes it possible to link a bibliographic database direct into a LaTeX document.

## BibTeX data item

```
@ARTICLE{Ciamarra-2005,  
  author   = {Ciamarra, M. and Coniglio, A. and Nicodemi, M.},  
  title    = {Shear instabilities in granular mixtures},  
  journal  = {Physical Review Letters},  
  year     = {2005},  
  volume   = {94},  
  number   = {18},  
  pages    = {18 -- 24}}
```

## In text

`\cite{Ciamarra-2005}` → Ciamarra et al. (2005)

## List of references:

Ciamarra, M., and Coniglio, A., and Nicodemi, M. (2005). Shear instabilities in granular mixtures. *Physical Review Letters*, vol. 94, no. 18, pp. 18 – 24.



### Outline

#### Introduction

- What is TeX and LaTeX?
- WYSIWYG vs Markup
- Why use LaTeX?

#### Syntax

#### Doc layout

- Classes
- LaTeX packages
- Main document
- Headings
- Paragraph text
- Math
- Cross references
- Lists
- Tables and figures

### Bibliography

#### LaTeX installation

#### Stellenbosch

#### Links



**For a proper working  $\text{\LaTeX}$  installation you need the following:**

- 1 A  $\text{\LaTeX}$  system with programs and packages.
- 2 A  $\text{\LaTeX}$  text editor (IDE)
- 3 A Bib $\text{\TeX}$  bibliographic database manager
- 4 Graphics software.

Outline

Introduction

What is  $\text{\TeX}$  and  $\text{\LaTeX}$ ?

WYSIWYG vs Markup

Why use  $\text{\LaTeX}$ ?

Syntax

Doc layout

Classes

$\text{\LaTeX}$  packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

$\text{\LaTeX}$  installation

Stellenbosch

Links



The L<sup>A</sup>T<sub>E</sub>X distributions provide comprehensive T<sub>E</sub>X/L<sup>A</sup>T<sub>E</sub>X systems with binaries for Linux, Windows and Apple Mac OS X. It includes all the major T<sub>E</sub>X-related programs, macro packages, and fonts, including support for many languages around the world.

**Linux, Windows**



**Windows**



**Mac OS X**



Outline

Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

Syntax

Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

Bibliography

L<sup>A</sup>T<sub>E</sub>X installation

Stellenbosch

Links

# Texmaker a free LaTeX editor

The screenshot displays the Texmaker application window. The top menu bar includes File, Edit, Tools, LaTeX, Math, Wizard, Bibliography, User, View, Options, and Help. Below the menu is a toolbar with icons for file operations, editing, and viewing. The main window is divided into three panes:

- Structure Pane (Left):** Shows a tree view of the document's structure, including labels, blocks, and sections like "pgfplots.preamble.tex", "Introduction", "Programming in TeX", "Variables in Registers", "Arithmetics in TeX", "Expansion Control", "The Scope of a Variable", "Branching", "Loops", "More On TeX", "Special Tricks", "Handling \# in Argument", and "pgfplots".
- Source Pane (Middle):** Displays the LaTeX source code. The code includes comments and commands such as `\end{codeexample}`, `\dimen`, `\scaled`, `\lpt`, `\def`, `\margin`, `\texttt`, `\count`, `\advance`, `\the`, `\dimen`, `\subsubsection`, and `\subsection`. The code is line-numbered from 108 to 135.
- View Pane (Right):** Shows the rendered output of the LaTeX code. It includes a "Contents" table of contents, an "Introduction" section, and a "Programming in TeX" section. The rendered text explains the purpose of the document and provides a starting point for interested readers.

The status bar at the bottom indicates the current file is "TeX-programming-notes.tex", the encoding is "L-1-C-1", and the document is in "Ready" state. The bottom right corner shows "UTF-8 Normal Mode".

# JabRef bibliography reference manager

JabRef - /home/alver/jabdoc/main\_base.bib

File Edit View BibTeX Tools Web search Plugins Options Help

Groups: tre\_entries.bib example\_entries.bib main\_base.bib

All Entries

- Cod
  - Ingestion
  - Energetics
  - Modelling
- Salmon
  - Modelling
- Rotifer
  - Modelling
  - Enrichment
  - Water quality

Settings

Search

Search All Fields

Clear

☐ Incremental  
☒ Float  
☐ Filter  
☐ Show results in dialog  
☐ Global search

Settings

#	Entry...	Author	Title	Year	Journal	Time...
73	Article	Breckling et al.	Individual-based models as tools for e...	2006	Ecologic...	2006.0...
74	Article	Brett and Müller-Navarra	The role of highly unsaturated fatty aci...	1997	Freshwa...	
75	Article	Bricaud et al.	Optical-properties of diverse phytopla...	1988	Journal ...	2011.0...
76	Article	Bricaud et al.	Natural variability of phytoplanktonic a...	2004	Journal ...	2011.0...
77	Article	Bricaud et al.	Variations of light absorption by suspe...	1998	Journal ...	2010.1...
78	Article	Bricaud et al.	Absorption by dissolved organic matte...	1981	Limnolo...	2011.0...
79	Article	Browman	Embryology, ethology and ecology of o...	1989	Brain Be...	
80	Article	Browman et al.	Perspectives on ecosystem-based app...	2004	Marine E...	
81	Inbook	Brown and N(\u{x}\~n)es	Fish Diseases and Disorders	1998		2006.0...
82	Article	Brown	Toward a metabolic theory of ecology	2004	Ecology	2008.1...
83	Article	Brown et al.	Larviculture of Atlantic cod (\textit{Gad...	2003	Aquacult...	
84	Article	Brown et al.	The use of behavioural observations in...	1997	Aquacult...	
85	Article	Brown et al.	Nutritional properties of microalgae for...	1997	Aquacult...	2005.1...

Required fields Optional fields General Abstract Review BibTeX source

Article

Author: Bricaud, A. and Bedhomme, A. L. and Morel, A.

Title: Optical-properties of diverse phytoplanktonic species -- Experimental results and theoretical interpretation

Journal: Journal of Plankton Research

Year: 1988

Volume: 10

Pages: 851--873

Editor:

Bibtexkey: Bricaud1988

Manage

Toggle abbreviation

Status: Preferences recorded.



## Outline

### Introduction

What is T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X?

WYSIWYG vs Markup

Why use L<sup>A</sup>T<sub>E</sub>X?

### Syntax

### Doc layout

Classes

L<sup>A</sup>T<sub>E</sub>X packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

### Bibliography

### L<sup>A</sup>T<sub>E</sub>X installation

### Stellenbosch

### Links

**UStthesis** Class/style files to typeset reports, theses and dissertations that conform to the requirements of Stellenbosch University.

**USbib** A BibT<sub>E</sub>X package for the formatting of bibliographic references of theses.

**UStitle** A package that redefine the title page to add a logo at the top and an address line below the author.

**USnomenc** Simple utility to set a nomenclature or list of symbols.

**USsummary** Summary page required for the final year projects of the M&M Department.

**USlogos** A collection of Stellenbosch University crest and logos and Engineering logos.

*These packages are all part of the standard T<sub>E</sub>XLive and MiK<sub>T</sub>E<sub>X</sub> distribution. Do not use old versions!*

### This document & $\text{\LaTeX}$ install

<http://mecheng.sun.ac.za/index.php/en/general>

### For more information on $\text{\LaTeX}$ :

<http://latex-project.org>

<http://latex-project.org/guides>

<http://www.tug.org>

<http://www.tug.org/interest.html>

<http://www.ctan.org>

### Tutorials & wikis

<http://www.ctan.org/pkg/lshort-english>

<http://en.wikibooks.org/wiki/LaTeX>

<http://www.andy-roberts.net/writing/latex>

<http://latex.silmaril.ie/formattinginformation>

<http://tug.org/tutorials/tugindia>

<http://csweb.ucc.ie/~dongen/LAF/LAF.html>



## Outline

### Introduction

What is  $\text{\TeX}$  and  $\text{\LaTeX}$ ?

WYSIWYG vs Markup

Why use  $\text{\LaTeX}$ ?

### Syntax

#### Doc layout

Classes

$\text{\LaTeX}$  packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

### Bibliography

### $\text{\LaTeX}$ installation

### Stellenbosch

## Links



Any  $\text{\LaTeX}$  questions?

$\text{\LaTeX}$



## Outline

### Introduction

What is  $\text{\TeX}$  and  $\text{\LaTeX}$ ?

WYSIWYG vs Markup

Why use  $\text{\LaTeX}$ ?

### Syntax

### Doc layout

Classes

$\text{\LaTeX}$  packages

Main document

Headings

Paragraph text

Math

Cross references

Lists

Tables and figures

### Bibliography

### $\text{\LaTeX}$ installation

### Stellenbosch

### Links