

The L^AT_EX beamer Class



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`biblatex` Questions

Overdue Formatting

The beamer Class

biblatex Questions

- ▶ Entry types and character styles
- ▶ Disabling the serial comma

Remember:

- ▶ Separate names with “and”, no comma
- ▶ Specify page range in format 5--15, no “p.” or hyphen
- ▶ Make use of the `subtitle` (and `booksubtitle`) field
- ▶ Specify a `langid` for foreign titles

biblatex Questions

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The beamer Class

Paragraph Formatting

```
\setlength{\parindent}{2em} % set first-line indent
                             % (default: 15pt)
\usepackage{parskip}        % load before changing
                             % parskip length
\setlength{\parskip}{0pt}   % set vertical distance
                             % between paragraphs
\indent                     % indent current paragraph
\noindent                   % do not indent paragraph
\hangindent=7mm             % use hanging indent
\hangafter{2}               % start hanging after n lines
                             % (default: 1)
\linespread{1.5}           % set line height
```

Document Formatting

Tweaking Space

```
\vspace*{3mm}
```

```
\vspace*{-3em}
```

```
\hspace*{4pt}
```

```
\hspace*{-1.2cm}
```

```
\hfill
```

```
\vfill
```

Document Formatting

The fullpage Package

```
\documentclass[12pt]{article}  
\usepackage{fullpage}
```

The draft Option and draftwatermark Package

```
% For visual indications of end-of-line  
% hyphenation and spacing issues  
% (also suppresses images):  
\documentclass[draft]{article}
```

```
% To print a large (grey)  
% "draft" watermark on every page:  
\usepackage{draftwatermark}
```

The minipage Environment

```
\begin{minipage}[t]{0.6\textwidth}
  \lipsum[2]
\end{minipage}
\hfill
\begin{minipage}[t]{0.37\textwidth}
  \includegraphics{filename}
\end{minipage}
```

Selected Options

- ▶ **t**: Vertically align baselines of top lines/elements
- ▶ **b**: Vertically align baselines of bottom lines/elements

The comment Package

```
\usepackage{comment}
```

```
\begin{document}
```

```
\lipsum[1]
```

```
\begin{comment}
```

```
\lipsum[2]
```

```
\end{comment}
```

```
\lipsum[3]
```

```
\end{document}
```

Hyperlinking with the hyperref Package

```
\usepackage{hyperref}
```

```
\hypersetup{colorlinks,urlcolor=blue,citecolor=}
```

```
\begin{document}
```

Link `\href{https://mufi.info}{thus}`.

Email links look like `\href{mailto:ava@mit.edu}{this}`.

```
\end{document}
```

Load the hyperref package as late as possible.

Hyperlinking with the `hyperref` Package

- ▶ Options may be loaded in `\usepackage` or `\hypersetup`
- ▶ Default visualization is a coloured box; set the `colorlinks` option to colour the font instead
- ▶ Separate visualization for URLs, cross-references, citations
- ▶ Leaving the value field empty means inherit paragraph color

<code>urlcolor</code>	web/email links
<code>citecolor</code>	bibliographical links
<code>linkcolor</code>	internal links/cross-references
<code>filecolor</code>	links to local files

Colour with the xcolor Package

```
\usepackage[dvipsnames]{xcolor}
```

Predefined in xcolor, Even without Options

black, blue, brown, cyan, darkgray, gray, green, lightgray, lime, magenta, olive, orange, pink, purple, red, teal, violet, white, yellow

Options like dvipsnames define further colours; see [manual §4](#).

Defining Your Own Colours

```
\definecolor{burgundy}{HTML}{990000}
```

Model	Format
RGB	255,0,12
HTML	CC66FF
cmyk	0,0.5,1,0
Many more!	See manual

Colour with the xcolor Package

Applying Colour

```
\textcolor{cyan}{Text goes here.} % typical use
```

```
\color{orange}Text goes here.      % in a bounded scope
```

```
\colorbox{pink}{Text goes here.} % background colour
```

```
\colorbox{pink}{\color{purple}Text goes here.}
```

```
\hypersetup{citecolor=purple,urlcolor=blue}
```

Syntax Highlighting with the `minted` Package

```
\begin{minted}{latex}
  \documentclass{article}
  \usepackage{minted}

  \begin{document}

    \emph{Commands} are now \textbf{highlighted}.

  \end{document}
\end{minted}
```

Inline: `\mintinline{latex}{\printbibliography}`

! Requires you to have `Pygments` installed.

Or use the stock `verbatim` environment and `\verb` inline command (no highlighting).

biblatex Questions

Overdue Formatting

The beamer Class

Using The L^AT_EX beamer Class

```
\documentclass{beamer}
```

```
\begin{document}
```

```
\begin{frame}
```

```
  \frametitle{This Is the First Slide}
```

```
  Content goes here
```

```
\end{frame}
```

```
\begin{frame}
```

```
  \frametitle{This Is the Second Slide}
```

```
  Content goes here
```

```
\end{frame}
```

```
\frame{This syntax is also permitted}
```

```
\end{document}
```


beamer \documentclass Options

<code>aspectratio=43</code>	4:3 aspect ratio (default)
<code>aspectratio=169</code>	16:9 aspect ratio (160mm x 90mm)
<code>aspectratio=1610</code>	16:10 aspect ratio (160mm x 100mm)
<code>c</code>	Vertically centre all slides (default)
<code>t</code>	Top-align all slides
<code>b</code>	Bottom-align all slides
<code>10pt</code>	Smaller font
<code>12pt</code>	Larger font
<code>handout</code>	Suppress overlays (print handout)
<code>trans</code>	Suppress overlays (print transparencies)
<code>xcolor=...</code>	Load <code>xcolor</code> options
<code>hyperref=...</code>	Load <code>hyperref</code> options

frame Options

<code>c</code>	Vertically centre content (default)
<code>t</code>	Vertically align content at top
<code>b</code>	Vertically align content at bottom
<code>allowframebreaks</code>	Move surplus content to next slide
<code>fragile</code>	Protect against package conflicts
<code>plain</code>	Use all available space for content
<code>shrink</code>	Shrink font size to maximize text content

Best use `allowframebreaks` for bibliographies only.

beamer Document Structure

`\part`, `\section`, `\subsection`, and `\subsubsection`

No visible output by default; the following changes this:

```
\AtBeginSection[]  
{  
  \begin{frame}  
    \frametitle{Table of Contents}  
    \tableofcontents[currentsection]  
  \end{frame}  
}
```

`\tableofcontents`

Relies on `\part`, `\section`, `\subsection`, and `\subsubsection`.

Themes

```
\usetheme{themeName}
```

Themes

- | | | |
|---------------|---------------|---------------|
| ▶ default | ▶ Darmstadt | ▶ Malmoe |
| ▶ AnnArbor | ▶ Dresden | ▶ Marburg |
| ▶ Antibes | ▶ Frankfurt | ▶ Montpellier |
| ▶ Bergen | ▶ Goettingen | ▶ PaloAlto |
| ▶ Berkeley | ▶ Hannover | ▶ Pittsburgh |
| ▶ Berlin | ▶ Ilmenau | ▶ Rochester |
| ▶ boxes | ▶ JuanLesPins | ▶ Singapore |
| ▶ CambridgeUS | ▶ Luebeck | ▶ Szeged |
| ▶ Copenhagen | ▶ Madrid | ▶ Warsaw |

See comparison matrix at hartwork.org/beamer-theme-matrix/.

Colour Themes

```
\usecolortheme{colorThemeName}
```

Colour Themes

- ▶ default
- ▶ albatross
- ▶ beaver
- ▶ beetle
- ▶ crane
- ▶ dolphin
- ▶ dove
- ▶ fly
- ▶ lily
- ▶ orchid
- ▶ rose
- ▶ seagull
- ▶ seahorse
- ▶ whale
- ▶ wolverine

See comparison matrix at hartwork.org/beamer-theme-matrix/.

Pick and Mix

```
\useoutertheme{outerThemeName}
```

```
\useinnertheme{innerThemeName}
```

Outer Themes

- ▶ infolines
- ▶ miniframes
- ▶ shadow
- ▶ sidebar
- ▶ smoothbars
- ▶ smoothtree
- ▶ split
- ▶ tree

Inner Themes

- ▶ rectangles
- ▶ circles
- ▶ inmargin
- ▶ rounded

Font Themes

```
\usefonttheme{serif}
```

Available Font Themes

- ▶ default
- ▶ professionalfonts
- ▶ serif
- ▶ structurebold
- ▶ structureitalicserif
- ▶ structuresmallcapserif

Several have options, e.g.:

```
\usefonttheme[stillssansseriflarge]{serif}
```

See the beamer manual for details.

beamer Template Design

```
\setbeamertemplate{navigation symbols}{}
```

```
\setbeamertemplate{bibliography item}{}
```

```
\setbeamertemplate{blocks}[rounded][shadow=true]
```

```
\setbeamertemplate{background canvas}[vertical shading]  
[top=palette primary.bg,middle=white,bottom=palette  
primary.bg]
```

```
\setbeamertemplate{sidebar canvas left}[horizontal  
shading][left=white!40!black,right=black]
```


beamer Colours

```
\setbeamercolor{background canvas}{bg=white}
```

```
\setbeamercolor{normal text}{bg=white,fg=cyan}
```

```
\setbeamercolor{alerted text}{fg=purple}
```

```
\setbeamercolor{block title}{fg=red}
```

```
\setbeamercolor{frametitle}{fg=blue}
```

```
\setbeamercolor{title}{fg=violet}
```

```
\setbeamercolor{quote}{fg=blue}
```

```
\setbeamercolor{bibliography item}{fg=black}
```

. . . and many more; see manual or WikiBooks.

beamer-Specific Page, Font, and Paragraph Defaults

- ▶ Landscape
- ▶ Sans serif
- ▶ Block paragraphs (nonzero `\parskip`; zero `\parindent`)
- ▶ quote environments produce italics

You may reset that last value thus:

```
\setbeamerfont{quote}{shape=\upshape}
```

And, if you like, set off its appearance using colour instead:

```
\setbeamercolor{quote}{fg=blue}
```

beamer-Specific Float Defaults

- ▶ Centred
- ▶ Unnumbered
- ▶ Placed “here”

You may number your floats as follows:

```
\setbeamertemplate{caption}[numbered]
```

Using hyperref

Loaded by default in beamer; set options using `\hypersetup` or as follows:

```
\documentclass[hyperref={colorlinks,urlcolor=red}]{beamer}
```

Using xcolor

Loaded by default in beamer; set options as follows:

```
\documentclass[xcolor=dvipsnames]{beamer}
```

instead of

```
\documentclass{beamer}  
\usepackage[dvipsnames]{xcolor}
```

Withholding Part of a Frame

Using `\pause`

```
\begin{frame}
```

Element 1

```
\pause
```

Element 2

```
\pause
```

Element 3

```
\end{frame}
```

One Item Per Slide

```
\begin{itemize}[<+>]
```

```
\item 1...
```

```
\item 2...
```

```
\item 3...
```

```
\end{itemize}
```

Columns

As an alternative to minipage environments, in beamer you can use columns:

```
\begin{columns}[c] % vertically centred
  \column{.5\textwidth}
    Content goes here
  \column{.5\textwidth}
    Content goes here
\end{columns}
```

Selected Options

- ▶ t: Vertically align baselines of columns' first lines
- ▶ T: Vertically align tops of columns' first lines
- ▶ c: Vertically centre
- ▶ b: Vertically align columns' bottom lines

The block Environments

```
\begin{block}{A Regular Block}
```

```
Content goes here.
```

```
\end{block}
```

```
\begin{alertblock}{An Alert Block}
```

```
Content goes here.
```

```
\end{alertblock}
```

```
\begin{exampleblock}{An Example Block}
```

```
Content goes here.
```

```
\end{exampleblock}
```


Bibliography Slides

```
\begin{frame}[t,allowframebreaks]  
  \printbibliography  
\end{frame}
```

Breakage

Known Issues

- ▶ xcolor and tikz
 - ▶ Load xcolor options in `\documentclass`
- ▶ minted
 - ▶ use the `fragile` or `fragile=singleslide` option on frame
- ▶ polyglossia and `\usefonttheme{}`
 - ▶ Issue `\usefonttheme{}` *before* loading polyglossia:

```
\usepackage{fontspec}  
\usefonttheme{serif}  
\usepackage{polyglossia}
```

(Otherwise your `\usefonttheme{}` command has no effect.)

Bibliography

“L^AT_EX.” <https://en.wikibooks.org/wiki/LaTeX>.

Kern, Uwe. *Extending L^AT_EX's Color Facilities: The xcolor Package*.
May 11, 2016. <https://ctan.org/pkg/xcolor>.

Tantau, Till, Joseph Wright, and Vedran Mitelić. *The beamer Class: User Guide for Version 3.50*. May 20, 2016.
<https://ctan.org/pkg/beamer>.