Overview

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• **Beamer**: a \LaTeX\ class to create slide presentations

• Specify the document class and load necessary packages
  \begin{verbatim}
  \documentclass[leqno]{beamer}
  \usepackage{setspace, graphics, hyperref}
  \end{verbatim}

• Insert options into \[ \]
Theme

- Specify global themes for your presentation
  \usetheme{ }
  \usecolortheme{ }

- Themes specify frame layout and color scheme

- Choose an appropriate theme for the occasion

- Many preferences for small details

- Design your own theme and colortHEME (ahem)
Title frame

- Specify information for the title frame
  \title[ ]{ }
  \subtitle[ ]{ }
  \author[ ]{ }
  \institute[ ]{ }
  \date[ ]{ }

- Insert a full title and name into { }

- Insert a short title and name into [ ]

- Short titles may appear in sidebar/header/footer

- Break a long title or name using \ \\ 

- Use color and typeface to highlight key information
• After completing the preamble begin the document
\begin{document}

\end{document}

• In the middle include content on frames
  ▶ Itemized or enumerated list
  ▶ Single or multi-line equation
  ▶ Table or figure
Viewing

- Use \texttt{pdflatex} on your \texttt{tex} file
- May need to do this more than once
- Automatically generates a \texttt{pdf} file
- Creates a number of secondary files
- Problems may be encountered using other commands
- Typically requires that figures be in \texttt{pdf} format
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• Every frame has a basic component
\begin{frame}
\frametitle{ }
\end{frame}

\end{frame}

• A frame title is optional but usually necessary

• Always choose a descriptive yet short frame title

• In the middle include a list, equation, table, or figure

• Use \texttt{[fragile]} option when using verbatim

• Always itemize or enumerate text in $\leq 2$ levels

• Use phrases with minimal punctuation
Title frame

- Begin your presentation with a title frame
  \begin{frame}[plain]
  \titlepage
  \end{frame}

- Do not include a frame title

- [plain] suppresses sidebars/headers/footers
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Organization

- For medium to long presentations create sections
  \section[ ]{ }

- For long presentations create subsections
  \subsection[ ]{ }

- Insert a short section or subsection name into [ ]
- Insert a full section or subsection name into { }
- Short names may appear in sidebar or header
- May be used to navigate through your presentation
Table of contents

- If including sections create a table of contents frame
  \begin{frame}
  \frametitle{Overview}
  \tableofcontents
  \end{frame}

- Table of contents frame automatically populated with full section and subsection names
Section pauses

• For longer talks it may be beneficial to pause between sections and return to the table of contents frame

• Include the following commands in the preamble
  \AtBeginSection[
  \begin{frame}<beamer>{Overview}
  \tableofcontents[currentsection]
  \end{frame}]

• Insert the table of contents frame title into \{ \}

• May also pause between subsections; [currentsubsection]
Overlays

• If including more material on a single frame...
  • ...hide some material and uncover it
    \pause
    \item< ->
    \uncover< ->{ }
  • Insert the order in which items are uncovered into < ->
  • Can easily be overused; never uncover lists piecewise
  • More options such as uncovering rows in a table
Overlays

- If including more material on a single frame...

- ...hide some material and uncover it

  \pause
  \item< ->
  \uncover< ->{}

- Insert the order in which items are uncovered into < ->

- Can easily be overused; never uncover lists piecewise

- More options such as uncovering rows in a table
Overlays

- Hidden items may either be gray or white
  \setbeamercolor{transparent}
  \setbeamercolor{invisible}

- Include one of these preferences in the preamble
Handouts

- For printing handouts remove pauses and overlays
- Include the `handout` option in the document class

\documentclass[handout]{beamer}
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Color matching

First in R...

> par(bty="n", mar=c(1, 1, 1, 1), xaxt="n", yaxt="n")
> x <- rep(1:26, times=26)[1:657]
> y <- rep(1:26, each=26)[1:657]
> plot(x, y, pch=15, col=colors(), cex=2, xlab="", ylab="")
> text(x, y, labels=1:657, cex=0.5)
> colors()[131]
[1] "dodgerblue3"
> col2rgb("dodgerblue3")
 [,1]
red 24
green 116
blue 205

...then in Beamer

\definecolor{dodgerblue3}{RGB}{24,116,205}
\textcolor{dodgerblue3}{This is dodgerblue3!}

This is dodgerblue3!
What’s wrong with this picture?

- **St. Olaf College** is located in Northfield, Minnesota.
- The college is home to the St. Olaf Choir, a mixed ensemble of 75 voices:
  - Founded in 1912 by F. Melius Christiansen,
  - Tours nationally and internationally,
  - 25-disc discography.
• **St. Olaf College** (Northfield, Minnesota)

• Home to St. Olaf Choir
  ▶ Mixed ensemble of 75 voices
  ▶ Founded in 1912 by F. Melius Christiansen
  ▶ Tours nationally and internationally
  ▶ 25-disc discography
\begin{itemize}
\item \textbf{St. Olaf College} (Northfield, Minnesota)
\medskip
\item Home to St. Olaf Choir
\begin{itemize}
\item Mixed ensemble of 75 voices
\smallskip
\item Founded in 1912 by F. Melius Christiansen
\smallskip
\item Tours nationally and internationally
\smallskip
\item 25-disc discography
\end{itemize}
\end{itemize}
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Resources

- 240-page (!) user guide
  www.tex.ac.uk/CTAN/macros/latex/contrib/beamer/doc/beameruserguide.pdf

- Beamer theme matrix
  www.hartwork.org/beamer-theme-matrix/

- Google pretty much anything