An Overview

Document Layout

More Header customization
Document Layout
\LaTeX provides several standard page styles. In the preamble, use `\pagestyle{style}`, where `style` is one of the following:

- **plain** blank header, footer contains only the page number
- **empty** empty header and footer
- **headings** header provided by document class, empty footer
- **myheadings** header determined by `\markright` and `\markboth`, footer is empty

`\markright` takes one argument, `\markboth` takes two arguments—the left-hand page header and the right-hand page header. We’ll only need `\markright` usually.

`\thispagestyle{style}` changes only the headers/footer on that page.
Let’s play around with this:

\documentclass{article}
\usepackage[margin=1in]{geometry}
\usepackage{amsmath}
\pagestyle{myheadings}
\begin{document}
Hello.
\markright{Math 233}
\newpage
Goodbye.
\markright{Introduction to Scientific Typesetting}
\end{document}

Try to substitute plain and empty for myheadings. Also try to use \thispagestyle on the second page.
Each document class has its own division names. For the article class, the divisions are:

\section, \subsection, \subsubsection.

The general form of the command is: \section{title}.

A variant is \section[short-title]{title}. In this case, short-title is used in the running header.

A second variant is \section*{title}, where no section number is printed and nothing is carried in the running header.
\documentclass{article}
\usepackage[margin=1in]{geometry}
\usepackage{amsmath}
\pagestyle{headings}
\begin{document}
\section[Intro]{Introduction}
Information here.
\subsection{Getting Started}
Right here
\end{document}
For scholarly articles, the title has a special appearance. This should be the first item after \begin{document} when writing such an article.

In the article class, there are several fields possible, then the \maketitle command formats the title. (The title page generally has the plain page style.)

\begin{document}
\title{A Really Nice Paper}
\author{Ryan Higginbottom}
\date{\today}
\maketitle
\end{document}
The abstract environment typesets the abstract of the paper. This goes within the document environment.

Make sure to put the abstract environment after the `\maketitle` command.

```latex
\begin{document}
\title{...}
\author{...}
\date{...}
\maketitle
\begin{abstract}
...
\end{abstract}
\end{document}
```
Let’s practice!

Open up the first example PDF file from Sakai, and reproduce it.
Most papers will require a bibliography or “References” section of some sort. This will be the last thing in the body of your paper, and it falls in a \texttt{thebibliography} environment.

\begin{thebibliography}{#}
  \bibitem{key}
  \ldots
\end{thebibliography}

# should be 9 or 99, depending on the number of entries you have.

You will have to run \texttt{\LaTeX} twice to get the citations correct.
Reference to the bibliography is done with $\cite{key}$. You’ll notice in the sample file that I’ve also put an optional page reference in.

Two downsides to processing bibliographies this way: you are responsible for the formatting of the entry, and you are responsible for the order in which entries appear.

In TeXnicCenter, open the second example file (.tex) I posted on Sakai, build it twice to PDF and view it.
Longer articles usually have tables of contents. This is generated with the \tableofcontents command. Because of the way \LaTeX processes things, it will take at least 2 (and sometimes 3) runs of \LaTeX to get all of the entries and page numbers correct.

Take the previous example .tex file and add three lines directly after \begin{document}:

\tableofcontents
\section{Introduction}
\subsection{Getting Started}

Now build three times and look at the .pdf file.
Notice that the “References” wasn’t in the table of contents. We can add it (or anything else) manually.

```
\addcontentsline{toc}{section}{text to be added}
```

From the previous example, put `\newpage` before the `thebibliography` environment and type

```
\addcontentsline{toc}{section}{References}
```

after `\newpage`.

Build three times and view.
More Header customization

The **fancyhdr** package

Two Examples

Practice
We saw earlier that there were a few ways to adjust the page style of your document. The `fancyhdr` package gives you a ton more control.

The commands for this go in the preamble of your document.

```
\fancypagestyle{name}
{
  \lhead{} \chead{} \rhead{}
  \lfoot{} \cfoot{} \rfoot{}
  \renewcommand{\headrulewidth}{0pt}
  \renewcommand{\footrulewidth}{0pt}
}
\pagestyle{name}
```

Within the `\fancypagestyle` command, typing `\thepage` will give the page number.
In TeXnicCenter, open the third example file (.tex) posted on Sakai.

Build it to PDF and view it.

You can also define multiple page styles with fancyhdr. You’ll need to use the command \thispagestyle. 

In TeXnicCenter, open the fourth example file (.tex) posted on Sakai. Build it to PDF and view.
Let’s practice!

Open up the fifth example file (.pdf) from Sakai, and reproduce it.