

Heincke Excursion 2011

— Report Instruction sheet —

Modified from J. Vogt's L^AT_EX notes

1 Basic document processing steps

- Download the template and supplementary files from Teamwork <https://teamwork.jacobs-university.de:8443/confluence/x/GYncAg>
- Have a look at the 2010 report at the teamwork pages above
- Rename the template to `Heincke-report-xyz.tex` where `xyz` is your name
- Edit the above renamed file with your text and contribution to the report
- Once you have finished with the report, upload it to the file share (samba, smb) on server Challenger (challenger.gislab.jacobs-university.de/data/Heincke2011/report)
- Give the images and figures a logical name eg. `Heincke-report-xyz-figure1`; where `xyz` is your name
- Upload the images and figures to challenger.gislab.jacobs-university.de/data/Heincke2011/report/images

2 Graphics

The slight difference with respect to the previous methods you may have used to include figures, is the use of the command

```
\usepackage[dvips]{graphicx}
```

this command is slightly different to

```
\usepackage[pdftex]{graphicx}
```

The one with `dvips` needs figures and images in `eps` (encapsulated postscript) or `ps` (postscript) formats. The command with `pdftex` can cope with `pdf` and `png` files.

Now you can add graphics to your document through the command

```
\includegraphics{filename.eps}
```

where the graphics file would be `filename.eps` or `filename.ps`. This command accept several options such as `width` or `height` or `angle`.

Here is an example to include the graphics file `AWI-Logo`:

```
\includegraphics[height=1cm]{AWI-Logo.eps}
```



Figure 1: Jacobs Logo



The command puts this graphics on the spot. For large images and diagrams, this may cause formatting problems, so the typesetting system should have the freedom to move graphics to a more suitable place and add a figure caption. To make the graphics a so-called *floating object* in the document, use the `figure` environment as in the following example:

```
\begin{figure}[!Htbp]
\begin{center}
\includegraphics[angle=45,height=3cm]{images/JACOBS_LOGO_RGB.eps}
\caption{Jacobs Logo}
\label{fig:Jacobs}
\end{center}
\end{figure}
```

This generates output as in figure 1.

Additional Tips:

- \LaTeX tries to find the optimum location for the included graphics. If it is not in the desired location, one could try to force it a bit more using `[!Htbp]` which tries to place the figure (H)ere, or at top of page, or bottom of page or finally on the same page. If it cannot find sufficient space, the figure will float towards the end of the page.

3 Tables

Another class of floating objects are tables. The construction of a table is facilitated through the `tabular` environment, and the `table` makes it a floating object. Here is an example.

```
\begin{table}
\begin{center}
\begin{tabular}{l|c|r|p{1cm}}
\hline
Class dates & Topics & Remarks & Paragraph\\
\hline
```

Class dates	Topics	Remarks	Paragraph
1 February 2010	Getting started with IDL	Introductory session (optional)	553343
2 February 2010	The \LaTeX typesetting system	Introductory session (optional)	341341f
8 February 2010	Data file preparation and preprocessing	Participation sheet	341341f
9 February 2010	Statistical description of data	Participation sheet	341341f
15 February 2010	Fourier transformation	Participation sheet	341341f
16 February 2010	Spectral analysis	Participation sheet	341341f
22 February 2010	Basic aspects of time series filtering	Participation sheet	341341f
23 February 2010	Modeling of data and least squares	Participation sheet	341341f

Table 1: Schedule of the course *ESS Data Analysis Techniques I*.

```

\hline
1 February 2010 & Getting started with IDL
& Introductory session (optional) & 553343\\
2 February 2010 & The {\LaTeX} typesetting system
& Introductory session (optional) & 341341f\\
8 February 2010 & Data file preparation and preprocessing
& Participation sheet & 341341f \\
9 February 2010 & Statistical description of data
& Participation sheet & 341341f \\
15 February 2010 & Fourier transformation
& Participation sheet & 341341f\\
16 February 2010 & Spectral analysis
& Participation sheet & 341341f\\
22 February 2010 & Basic aspects of time series filtering
& Participation sheet & 341341f\\
23 February 2010 & Modeling of data and least squares
& Participation sheet & 341341f\\
\hline
\end{tabular}
\caption{Schedule of the course \emph{ESS Data Analysis Techniques I}.}
\end{center}
\end{table}

```

This generates the output in table 1.

Table tips:

- use `\hline` and `{|l| ..}` to control the grid lines
- if you have a very wide column, then you could use the `p` option in `\begin{tabular}{|p{5cm}|l|r|}` where `p` means para spacing. In this case the text cannot be left, right or center justified ..
- the option to use color in Tables

- note that `tabular` is responsible for the drawing of the table, while the `\begin{table}` etc part determines the environment i.e. caption, linking etc.