

## **Putting problem sheets on the Web in PDF format**

This short document lists the Unix or Linux commands for putting coursework sheets, etc., on the Web in PDF format. They refer to an imaginary course given by Peter Cameron (login name `pjc`) with code MAS999, called “Metamagical Themas 2”. Simply adjust this for your own course.

PC and Macintosh users can also use this method – log in to a departmental Unix machine first (use FTP or similar to move your files) and then follow these instructions, using the Unix commands like magic spells. Or see the next page for links to documents by Wilfrid Hodges and Francis Wright.

## Further information

This document will be placed on the Web at the address

<http://www.maths.qmw.ac.uk/~pjc/MAS999/instr.pdf>

Look also at

<http://www.maths.qmw.ac.uk/~pjc/MAS999/>

to see how it works. For background and Macintosh issues see

<http://www.maths.qmw.ac.uk/~wilfrid/macinstr.pdf>

and for Windows issues see

[http://centaur/Generating\\_PDF/](http://centaur/Generating_PDF/)

## Where to put it?

1. If you already have a Web page, change to your `public_html` directory and go to Step 3. (You will probably want to put a link on your Web page once everything is set up.)

2. In your Unix root directory, do the following:

```
mkdir public_html  
chmod a+rx public_html  
cd public_html
```

3. Now create a subdirectory for your course material:

```
mkdir MAS999  
chmod a+rx MAS999  
cd MAS999
```

## The index

Make a file called `index.html` in this subdirectory. Here is an example.

```
<HTML>
<HEAD>
<TITLE>MAS999 course material</TITLE>
</HEAD>

<BODY>
<H1>MAS999 course material</H1>
From here you can take copies of the
problem sheets for the course
MAS999, <I>Metamagical Themas 2</I>.

<UL>
<LI><A HREF="cw1.pdf">Coursework 1</A>
<LI>Coursework 2 (not yet available)
</UL>

<HR>
<A HREF=mailto:p.j.cameron@qmw.ac.uk>
Peter J. Cameron</A><BR>
20 March 2000
</BODY>
</HTML>
```

Then do `chmod a+r index.html` to make it readable by everyone.

## Making a PDF file

These instructions assume that your problem sheet is a  $\text{\LaTeX}$  file called `cw1.tex`.

1. Put the commands

```
\usepackage{times}  
\usepackage{mathptm}
```

in the preamble. (Not required but strongly recommended.)

2. Now issue the command

```
pdflatex cw1
```

If you are not in the HTML directory for the course, copy the file `cw1.pdf` to that directory. Then do

```
chmod a+r cw1.pdf
```

## Making a PDF file, 2

1. An alternative method which works if you don't have `pdflatex` is the following:

```
latex cw1
dvips -o cw1.ps cw1.dvi
ps2pdf cw1.ps cw1.pdf
```

2. If you use plain  $\text{T}_{\text{E}}\text{X}$  replace `pdflatex` by `pdftex`. You will have to declare the Times fonts in the  $\text{T}_{\text{E}}\text{X}$  document.

3. Finally: test it out, and tell John Radcliffe to put a link from your course description in the undergraduate handbook to your newly created website. The address in this case would be

<http://www.maths.qmw.ac.uk/~pjc/MAS999/>

## Adding links

If you use `pdflatex`, you can very easily put links into your PDF document, as follows.

1 Put the line

```
\usepackage{hyperref}
```

in the preamble of your  $\text{\LaTeX}$  document.

2. Your cross-references and citations will automatically become active (clickable) links.

3. To add external references to the document, use the command

```
\href{URL}{link text}.
```

For example, the first page of this document contains the code

```
\href{http://www.maths.qmw.ac.uk/~pjc/MAS999/instr.pdf}{on the Web}
```

## Other issues

1. An `index.html` file is not really necessary. If you don't have such a file, then anyone coming to that directory should get a directory listing and can click on the file that they want. This saves updating your index file every time you add a problem sheet. (Of course, an index file can do much more!)

2. If you are putting lecture notes on the Web, you may want to give the students the option of printing out several sheets to the page. Follow the `latex - dvips - ps2pdf` route with a new third stage

```
mpage -4 file.ps >file4.ps
```

for 4-up, that is, 4 pages on a sheet. (You can replace 4 by 2 or 8 here.) The result, applied to this document, is on the web.

3. See Wilfrid Hodges' document for information about putting other kinds of documents into PDF format.



## Including graphics

To include graphics files in  $\text{\LaTeX}$  documents, I recommend the following method.

1. To convert the graphic to PostScript, load it into `xv`, and save as PostScript. (Alternatively, you can print to a file as Wilfrid suggests, but then you have to tangle with bounding boxes.)

2. Put `\usepackage{graphicx}` at the start, and then use `\includegraphics{foo.ps}`. You can resize with an optional argument, e.g. `[scale=0.8]`.

3. This method is not compatible with `pdflatex`; you must use the alternative method. Also, it is not compatible with `mpage`.

Here is an example. See Wilfrid's notes for more information.