OU-SUPPS

Class files for Open University teaching material

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1 Introduction

The OU-SUPPS repository contains four class files:

- `ouab.cls` for Assignment Booklets and TMA booklets;
- `outn.cls` for Tutor Notes and specimen solutions (for distribution to students);
- `ouexam.cls` for exams, specimen exams, and solutions;
- `ouicma.cls` for print versions of iCMAs (e.g. for offender learners).

In addition, template LaTeX files for each class file are available, illustrating most of the features available.

2 Installation

OU-SUPPS does not need installation. To use:

1. Download the contents of the OU-SUPPS repository from `https://github.com/rbrignall/OU-SUPPS`.
2. Save the contents in your working folder.
3. Open the template tex file for the class you want to use with your LaTeX editor, and compile it *twice* (using either `latex` or `pdflatex`).
4. Your LaTeX distribution may ask to install a few packages the first time you compile each of the template files.
5. If it compiled successfully, then everything is working as expected.

Important: When writing a SUPP file using the new system, as a minimum you will need to have the following files in your working folder:

- The tex source for your document.
- The relevant class file (e.g. `ouab.cls` if you're creating an Assignment Booklet).
- The two OU logo files.

*For bug reports, comments and suggestions go to `https://github.com/rbrignall/OU-SUPPS`.

3 Using `ouab.cls`

This section covers the features available in `ouab.cls`, for writing Assignment Booklets and TMA books. `ouab.cls` is based on the standard `article` class file, so any commands used there can be used in `ouab`.

3.1 Preamble

3.1.1 Options

As well as the default version, there are two options available. These options do not affect the syntax you use for the rest of your file.

`\documentclass{ouab}`

This is the default operation for using `ouab.cls`. It produces a table of contents on the front page, and is designed for Assignment Booklets containing more than one TMA/CMA.

`\documentclass[oneassignment]{ouab}`

This version is designed for booklets that contain (e.g.) a single TMA (although it will let you have more than one assignment in the source). Instead of a table of contents on the front page, it inserts information provided by the first assignment in the `latex` file.

`\documentclass[markcheck]{ouab}`

(EXPERIMENTAL) This version can be used to check that the stated total marks for a question (i.e. the number n in `\question[...]{`n`}[...]`) is equal to the number of marks produced by `\marks{...}` in the subquestions. If the numbers do not add up, it interrupts the compilation and reports this. Do not wholly rely on this, as it is an experimental feature!

`\documentclass[oneassignment,markcheck]{ouab}`

As always, you can combine options and the effects of each option will be seen.

3.1.2 Commands to be used in the preamble

`\faculty{...}`

The name of the faculty (optional, default is 'Mathematics, Computing and Technology')

`\modulecode{...}`

Sets the code of the module (required).

`\moduletitle{...}`

Sets the title (i.e./ name) of the module (required).

`\abtitle{...}`

Sets the title for the Assignment Booklet (required).

`\absubtitle{...}`

Subtitle for the Assignment Booklet (optional, default is blank).

`\abyear{...}`

Sets the year/presentation for this AB (required).

`\copyrightyear{...}`

Sets the date for copyright, used in the footer on the front page (optional, default is same as `\abyear`).

`\suppno{...}`

Sets the SUPP number, mainly used by DPU/LTS (optional, default is 'DRAFT').

`\versionno{...}`

Sets the version number, mainly used by DPU/LTS (optional, default is blank).

`\optiontext{...}`

Changes the text that appears at the top of multi-choice questions (optional, default is 'Options:'). Does not need to be in the preamble, so you can change the text for options part-way through the document.

`\abinstructions{...}`

Command for the instructions/rubric on the front page of the booklet (optional, but defaults to 'No special instructions specified.')

3.2 Creating assignments

Three commands are available to create assignments: TMA, CMA, and a generic command for creating any other type.

`\tma[`⟨*date*⟩`]{`⟨*number*⟩`}[`⟨*subtitle*⟩`]`

Creates a TMA with number equal to ⟨*number*⟩. The ⟨*date*⟩ and ⟨*subtitle*⟩ parts are both optional and can be omitted.

⟨*date*⟩ specifies the cut-off date for the TMA.

⟨*subtitle*⟩ specifies text for the 'subtitle', which is only used in the description of the assignment on the front page.

`\cma[`⟨*date*⟩`]{`⟨*number*⟩`}[`⟨*subtitle*⟩`]`

Creates a CMA, usage as per `\tma`.

`\assignment{`⟨*name*⟩`}[`⟨*date*⟩`]{`⟨*number*⟩`}[`⟨*subtitle*⟩`]`

Creates an assignment type ⟨*name*⟩ (required), numbered with ⟨*number*⟩. The ⟨*date*⟩ and ⟨*subtitle*⟩ parts are both optional and can be omitted.

It is worth noting that the `\tma` command is simply defined in `ouab.cls` using

```
\def\tma{\assignment{TMA}}
```

All assignment types add an entry to the table of contents on the front page, and reset the `question` counter to 0. The behaviour of the table of contents depends on whether the `oneassignment` option has been specified or not.

3.3 Creating questions

The internal counter used for generating questions is `question`. This gets reset at the start of each assignment.

3.3.1 Question syntax

`\question[`⟨*description*⟩`]{`⟨*marks*⟩`}`

Creates a new question, with the number of marks available specified by the command ⟨*marks*⟩.

The parameter ⟨*description*⟩ is optional, and can be used to provide additional information about the question in its header line.

`\question*[`⟨*description*⟩`]`

Starred variant of `\question` which does not require the number of marks to be specified. The parameter ⟨*description*⟩ is optional.

3.3.2 Subquestions

To create subquestions, use the standard LaTeX `enumerate` environment.

```
\begin{enumerate}
\item ...
\item ...
...
\end{enumerate}
```

These environments can be nested to create subsubquestions, etc. The default numbering style is `(a),(b),...` for subquestions, and `(i),(ii),...` for subsubquestions.

The class file `ouab.cls` loads the `enumitem` package, which provides a number of features, two of which we list here.

- Changing the numbering: Start the environment using, e.g. `\begin{enumerate}[A.]`, to modify the numbering system to `A.,B.,...`.
- Resuming numbering after a break: use `\begin{enumerate}[resume]` to continue counting from the previous time an enumerate environment at this level was called.

For fuller details of the possibilities with `enumitem`, see the documentation on its CTAN entry.

3.3.3 Marks

Marks can be placed anywhere in the document (including inside displayed equations). You may need to compile your `tex` file twice in order for the marks to be correctly aligned.

`\marks{`⟨*n*⟩`}`

Places ⟨*n*⟩ in square brackets in the right hand margin on the line.

Warning: This feature has redefined the TeX primitive `\marks` command.

`\mk{⟨n⟩}`

A synonym for `\marks`, for those moving from OUTeX.

If using the experimental `markcheck` option, when compiled, LaTeX will check whether the sum of the entries inside `\marks` and `\mk` commands adds up to the parameter ⟨*marks*⟩ specified by the preceding `\question`. This has some limitations (e.g. it won't understand `\tfrac{1}{2}`).

If the numbers are not the same, `markcheck` will cause the compilation to stop and give you information about where the marks do not add up. Press ⟨*enter*⟩ to carry on compiling your tex file.

3.3.4 Multiple choice

For CMAs and other assignment types that have multiple choice questions, the following commands are available.

The text appearing at the top of each list of options can be changed using the `\optiontext{`⟨*title*⟩`}` command. This command can be used in the premable, or at any point in the document.

```
\begin{options}
   \item ...
   \item ...
\end{options}
```

Creates a list of options, with the text of each `\item` starting on a new line. Options are labelled `A.`, `B.`, `C.`, ...

```
\begin{inlineoptions}[⟨line spacing⟩]{⟨columns⟩}
   \item ...
   \item ...
\end{inlineoptions}
```

Creates a list of options, displayed in ⟨*columns*⟩ number of columns, equally spaced. Each successive `\item` is placed sequentially from left to right, then starting a new line as necessary. Options are labelled `A.`, `B.`, `C.`, ...

The optional parameter ⟨*line spacing*⟩ can be used to increase the spacing between each line. However, note that this also affect spacing within options, which can have undesired effect if your options include, e.g., a `matrix` environment.

`\noitem`

This command can be used within `inlineoptions` to leave a 'blank' in the list of options. This is particularly useful on the final line if you have fewer `\item`s left than the specified number of ⟨*columns*⟩.

3.4 Technical info

This section can be omitted unless you need/want to know a bit more about the class file.

3.4.1 Packages loaded

`ouab.cls` loads the following packages automatically, so you do not need to call `\usepackage{...}` to use the features provided by these.

- `geometry` to set page margins, sizes, etc

- `fancyhdr` for formatting headings
- `graphicx` for handling images, etc
- `changepage` to adjust page widths automatically
- `array` extends the `array` and `tabular` environments.
- `amsmath` loaded with the `fleqn` option to left-align displayed mathematics.
- `amssymb` extra mathematical symbols
- `lastpage` for knowing how many pages the document contains
- `ifthen` for internal latex coding
- `enumitem` with options `inline` and `shortlabels`. This is a powerful tool that will help preparing subquestions (see later).
- `marginnote` for handling marks, etc in the margin.
- `caption` with option `labelsep=quad` to improve formatting for figures.

4 Using `outn.cls`

Not yet written!

5 Using `ouexam.cls`

Not yet written!

6 Using `ouicma.cls`

Not yet written!

7 Moving from OUTeX

Some features in OUTeX have not been carried over. Here is some help to help you adjust to standard LaTeX.

OUTeX	LaTeX
`\intertext`	`\end{enumerate}...\begin{enumerate}[resume]`

`\<...&...\>`	`\begin{align*}...&...\end{align*}`
	You can recover the OUTeX command by inserting the following into your preamble:
	`\def\<#1\>{\begin{align*}#1\end{align*}}`
	However, we do not recommend you use this, as it will not be understood by anyone not previously familiar with OUTeX (e.g. ALs).

Matrix alignment	Load the `mathtools` package, or use the `array` environment instead, with `\left(` and `right)` as appropriate.