ISOS Course

Introduction to LaTeX

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LaTeX is among the most powerful and best tools for writing scientific papers. In contrast to most popular office suites, LaTeX is a text processor and requires a separate text editor application to create input files (tex-files) to be processed by LaTeX into pdf documents. The tex-files contain the text mixed with instructions [commands and environments] how the text should be formatted. Thousands of packages, most of them very well documented, extend the functionality of LaTeX, e.g., for math, bibliographies or graphics.

Tex-files describe the structure and formatting mostly in terms of functionality. The general structure of a LaTeX document is defined by its document class, e.g., article, presentation, book, letter, etc. Individual text parts are categorised as normal text, title, section header, abstract, math, etc., instead of specifying font, size, and weight, although explicit font selection is also possible. This has the advantage of promoting structured writing and focusing on the content. Most commands and environments have fairly intuitive names, which facilitates learning the “LaTeX programming language” and working with existing files. At the same time, the sheer number of commands and packages can be overwhelming and a good deal of training is required to produce publication-quality documents.

The main strengths of LaTeX are its ability to typeset mathematical material of any kind simply and effectively, and its handling of bibliographies, but it can also be used for presentations and even graphics. LaTeX is available for all of the major operating systems and works (almost) the same way on every system. Thus, tex-files and the generated documents are highly portable. LaTeX is also backwards compatible, so that all tex-files of any age still “work” today.

In this course I will introduce writing simple tex-files for scientific articles, letters, and presentations. We will cover mathematical equations, tables, figures, and referencing these. We will also create and employ a bibliographic database in the BibTeX format.

Venue: Leibnizstr. 1, room 105a
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