University of Utah Fall 2024

MATH 4800-001 Report 0 Specification

Instructor: Alp Uzman

Subject to Change; Last Updated: 2024-08-19 18:12:22-06:00

1 Background

In this semester's MATH 4800, all written assignments must be prepared using Latex. Since the course does not assume prior familiarity with Latex, Weekly Report 0 is designated for practice. Latex is a document preparation system that allows for the efficient typing of technical symbols and is the industry standard in many STEM fields, including mathematics, physics and computer science.

There are several interfaces available for preparing LaTeX documents. One convenient online platform is Overleaf, while Miktex offers an offline alternative. Due to its simplicity, accessibility, widespread use, and extensive documentation, Overleaf is recommended for this course. A helpful starting point is the following guide for preparing LaTeX documents on Overleaf:

https://www.overleaf.com/learn/latex/
Learn_LaTeX_in_30_minutes.

Personal Rules for Latex Latex is deep and interesting, and it's easy to get sidetracked. While this course requires LaTeX usage, it is not a LaTeX course; therefore, mastering only the basics is sufficient. Here are some personal guidelines I've developed over the years:

- Avoid spending too much time on typography and aesthetics.
- There are often better ways to accomplish something in terms of code efficiency or aesthetics. While figuring out these methods can be worthwhile, it's not always necessary to invest the time.
- Macros, especially \DeclareMathOperator and \newcommand, can speed up your workflow, though they may make your code harder for others to read.
- Using a separate BIB file is preferable to the bibliography environment. Most databases, such as MathSciNet, arXiv, and Google Books, provide BibTeX entries for articles and books.
- Write your code in a readable manner, ensuring that not only the PDF output is clear, but also that the source code is maintainable.
- Be mindful of the packages you include. Avoid \usepackage if you're not actually using the package in your document.

2 What to Submit

Submit a document whose TEX file contains the following commands:

```
\author
\date
\maketitle
\textbf{}
```

```
\textit{}
\begin{figure} ... \end{figure}
\begin{enumerate} ... \end{enumerate}
\( ... \)
\[ ... \]
\{ ... \}
\int
\lim
\sum
\frac
\dfrac
\begin{pmatrix} ... \end{pmatrix}
\begin{vmatrix} ... \end{vmatrix}
\begin{align} ... \end{align}
\begin{align*} ... \end{align*}
\begin{theorem} ... \end{theorem}
\section
\subsection
\paragraph
\\
\newpage
\label
\ref
```

As this report is for developing Latex skills, your document need not be coherent, mathematically or otherwise. The contents of this week's report will not be checked for overlaps.

Template You may find a template TEX file under the Files tab on Canvas. While using this template is not necessary for this week's report, the formatting requirements for future reports will be according

to this template.

3 Generative AI and Computer Algebra Systems Regulations

You may use generative tools or computer algebra systems without restriction for this week's report. However, to build general LaTeX fluency, it is recommended that you avoid using generative tools.

4 How to Submit

Submit the following items on the Canvas page for the assignment:

1. Your work as a PDF file rendered in Latex.
2. All the source files for your PDF file, including the TEX file as well as any supporting files (such as a BIB or PNG file).

Canvas will not warn you if you miss submitting one of the files above. Unless all the items above are submitted, your submission will be incomplete and graded accordingly.

5 When to Submit

This weekly report is due on August 25, 2024 at 11:59 PM. Late submissions will not be accepted unless you contact the course staff with a valid excuse before the deadline.