Math 199: LaTeX Tutorial

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1 Focus of the Course

The focus of the course is to create a LaTeX tutorial for Drake University students. LaTeX is an open–source typesetting program for technical documents. The program is particularly adept to easily creating mathematical symbols and bibliographies. It is often considered a standard for authors in mathematics, physics, computer sciences, and economics. This course will create an online tutorial with an emphasis on the aspects of LaTeX likely to be used throughout undergraduate study. The tutorial will be experimented with the Department of Mathematics and Computer Science FYS course. It will undoubtly be a benefit for students throughout their undergraduate coursework, for those going to graduate school, and those creating documents in the private sector.

2 Course Outline

The tutorial will primarily consist of PDF slides (created by myself), supplemental documents (also written by myself), and 3^{rd}–party documents already freely available. An emphasis will be placed on the slides and the 3^{rd}–party documents freely available online or exclusively to Drake University students (e.g. Cowles Library, ebrary, etc.) This tutorial will be distinctly different from most other online tutorials by specifically focusing on the needs to undergraduate students.

The tentative outline of the course is divided into two unequal sections. The first three to four meetings (the interval of meetings is to be determined) will introduce the fundamental commands for LaTeX. After this section, an astute participant should be able to use LaTeX for seventy percent of papers she will be assigned. The section section consists of six to eight meetings. These meetings will explore more advanced aspects of such as graphics and "floats". We will also attempt to integrate LaTeX with other software a student may encounter, such as Mathematica. A student participating in both sections would be able to complete any University assignment in LaTeX. Below is a table outlining the current tentative outline.

Meeting #1	Introduction to LaTeX	Why LaTeX?; Basic Structure; Needed Software
Meeting #2	Structure	Document Types; Generating Documents
Meeting #3	Math & Tables	Math; Tables
Meeting #4	Automatic Indexing	Bibliographies; Index of Tables; Indexes
At this time students should be able to prepare intermediate LaTeX documents		
Meeting #5	Advanced Mathematics	Mathematica; HTML; LaTeX, IDE
Meeting #6	Advancing Formatting	Floats; Graphics
Meeting #7	Advancing Formatting II	Advanced Floats; Advanced Graphics
Meeting #8	Multilingual	Babel
Meeting #9	Multiple .tex Files	Style Files

3 Course Goals

Throughout the project I will be emphasizing two goals: to continue to use LaTeX in their coursework and to contribute to the LaTeX project. The former can be satisfied by emphasizing the benefits of LaTeX. The latter will be achieved by making the source material available to be edited and extended. That is, documents I write for this tutorial will be made available in PDF for viewing and .tex for editing. My hope is that making the source code available will let a future student modify the tutorial as the LaTeX program changes.