

Technology Course Day 2: L^AT_EX and Mathematica

Elisha Cohen

August 23rd, 2019

E-mail: eacoe3@emory.edu

Web: elishacohen.rbind.io

Class Hours: Aug 22nd, 23rd, 26th, 9:30 AM-12:30 PM, Tarbuton 116

Office: Tarbuton 113C

Mathematica

1. Install [Mathematica](#) (available through Emory)
2. Tutorials:
 - [Wolfram tutorial](#)
 - Emory has online books through Woodruff library: [Mathematica Data Visualization](#)
 - Online Resources
 - [Mathematica Tutorial](#) by Mark Gockenbach
 - [Purdue Computer Science Tutorial](#)
3. Objectives [Focus on these sections on Wolfram tutorial](#)
 - Entering Input
 - Algebra
 - Plots in 2D
 - Sequences, Sums & Series
 - Multivariate Calculus
 - Vector Analysis & Visualization
 - Matrices & Linear Algebra

L^AT_EX

- L^AT_EX is a document preparation system for typesetting often used for technical or scientific documents
 - Separate content from presentation

- The main file will always be a file with a `.tex` extension (e.g. `document.tex`). This file is then compiled into a PDF.
- Formats: individual documents, books, thesis, presentations (beamer), poster
- Why use \LaTeX ?
 - Useful in large documents: cross-referencing to tables and figures and other sections
 - Typesetting for mathematical formulas, proofs, etc.
 - Include tables, data analysis output (like regression results)
 - Automatically generate bibliographies and include references

Installation

Many processing systems now come with a \LaTeX distribution already installed. If not, or if you want to update your version you can install from the latex-project.org site.

There are LaTeX editors like [Lyx](#). You can also use your preferred text editor, for example [atom](#), and configure it to compile LaTeX.

If you don't want to install LaTeX you can use an on-line ready to go option like [Overleaf](#)

- [Emory Overleaf Portal](#)
- [Emory Libraries LaTeX page](#)

LaTeX Resources

- [helpful LaTeX packages](#)
- [tug.org tutorial](#)
- [LaTeX table example](#)
- [Inserting an image or figure](#)
- [Bibliography](#)