

From \begin to \end

The Complete LaTeX Guide

Course Outline & Syllabus

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Format: 7-Day Intensive Course
Audience: Complete beginners, economics background

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1 Course Overview

This course takes a complete beginner from zero LaTeX experience to independently writing, formatting, citing, and submitting a publication-ready economics paper in seven days.

Audience. Complete beginners with an economics background, writing for the purpose of producing publication-quality articles, working papers, and reports.

Format. Seven daily sessions of 2–3 hours of instruction plus hands-on practice. Each day builds directly on the last, using a single running paper draft as the exercise throughout the week.

Tooling. Overleaf (overleaf.com) – a free, browser-based LaTeX editor. No local installation is required, the free tier is sufficient, and it includes a live PDF preview and a journal template gallery.

Primary references. Overleaf’s “Learn LaTeX in 30 Minutes,” the full Overleaf documentation library (overleaf.com/learn), and the Wikibooks LaTeX manual (en.wikibooks.org/wiki/LaTeX) – used throughout as the topic-by-topic reference set for every day below.

Teaching style. Every concept in the daily slide decks is taught as a triad: the **code** you write, the **compiled output** it produces, and a plain-language explanation of *why* you write it and *what* it does – a book-style, example-first approach designed for someone who has never opened a `.tex` file before.

Outcome. By Day 7, the trainee independently produces a formatted, cited, journal-template-ready economics paper and can self-debug common compile errors without assistance.

2 Week at a Glance

Day	Focus	Key Skill Unlocked
1	Setup & Document Anatomy	Compile a working <code>.tex</code> file from scratch
2	Math Mode for Economists	Typeset models, equations, and notation
3	Tables, Figures & Regression Output	Publication-quality regression tables
4	Citations & Bibliography	Author-year citations with BibTeX/natbib
5	Document Structure & Long Documents	Organize a full paper across files
6	Journal Templates & Formatting	Submission-ready formatting
7	Troubleshooting & Independent Mastery	Self-debug and finalize the paper

3 Daily Curriculum

Day 1: Setup & Document Anatomy

Objective. Get the trainee compiling their first document and understanding what LaTeX actually is – a markup language, not a word processor. Zero prior exposure assumed.

Topics. What LaTeX is and isn't; getting started with Overleaf; the minimal document (preamble vs. body); document class and packages; the title block (`\title`, `\author`, `\maketitle`); sections and subsections; paragraphs and line breaks; bold, italics, and comments; reading your first compile errors.

Exercise. Recreate the title page and abstract of a real, published economics paper, compiling at least five times and intentionally breaking and fixing something each time.

Homework. Retype the introduction paragraph of the paper you will rebuild all week into a new Overleaf project.

Day 2: Math Mode for Economists

Objective. Typeset models, regression specifications, and notation with full precision – no equation editor required.

Topics. Inline vs. display math; the `amsmath` package; subscripts and superscripts; Greek letters and operators (sums, products, limits, `argmax`); fractions and binomials; multi-line derivations with `align`; matrices (correlation matrices, game-theory payoff matrices); labeling and referencing equations.

Exercise. Typeset a Cobb-Douglas production function, a linear regression equation with a subscripted error term, and a 2×2 payoff matrix.

Homework. Add the full set of equations from the running paper draft, labeling every numbered equation.

Day 3: Tables, Figures & Regression Output

Objective. Build a repeatable workflow for turning regression output and charts into clean, journal-style tables and figures.

Topics. The `tabular` environment; `booktabs` rules for the economics-journal look; `multicolumn`/`cmidrule` for grouped regression headers; a complete worked regression table; the `figure` environment and `includegraphics`; float placement; the [tablesgenerator.com](https://www.tablesgenerator.com) workflow for Excel/Stata output.

Exercise. Reproduce a small regression output table in `booktabs` style using [tablesgenerator.com](https://www.tablesgenerator.com) as a first pass, then hand-edit for captions and labels.

Homework. Insert all tables and figures from the running paper draft, with proper captions and labels.

Day 4: Citations & Bibliography

Objective. Build a working BibTeX pipeline reusable for every future paper, practicing on real published research.

Topics. BibTeX basics and the `.bib` file; `natbib` and author-year citation styles common in economics; `\citet` vs. `\citep`; `biblatex` as an alternative; sourcing `.bib` entries from Google Scholar, reference managers, and journal websites; cross-referencing sections, equations, tables, and figures.

Exercise. Build a five-entry `.bib` file from real papers listed at whiteglobeinitiative.org/published-papers (or your own field's literature) and write a short mock literature review citing all five.

Homework. Build the real bibliography for the running paper draft and cite throughout the introduction/literature review.

Day 5: Document Structure & Long-Document Tools

Objective. Move from a single short file to the structure a full paper or thesis-length document needs.

Topics. Table of contents; footnotes; the `hyperref` package for clickable cross-references; splitting a long paper across files with `\input`; page numbering, headers, and footers.

Exercise. Split the running paper draft into separate files and assemble them into a single `main.tex` using `\input`, adding a table of contents and at least one footnote.

Homework. Load `hyperref` and confirm every cross-reference resolves correctly.

Day 6: Journal Templates & Professional Formatting

Objective. Become fluent in adapting an existing journal template rather than building formatting from scratch.

Topics. Browsing the Overleaf template gallery (AEA-style, Elsevier's `elsarticle`, working-paper templates); filling in title/author/abstract/JEL/keyword metadata; page size and margins; using colour sparingly; converting an existing Word draft to LaTeX.

Exercise. Migrate the entire running paper draft into one real economics journal template, end-to-end.

Homework. Proofread the migrated document for formatting breaks and list everything found.

Day 7: Troubleshooting, Polish & Independent Mastery

Objective. Leave able to diagnose errors and finish a paper without a tutor in the room.

Topics. Reading compile errors like a pro; search strategy for TeX StackExchange; the pre-submission proofreading checklist; exporting the final PDF; where to go next (`lshort`, the wider Overleaf library).

Exercise. The instructor injects 3–5 common errors into the trainee's document; the trainee diagnoses and fixes each one unaided.

Final deliverable. A submission-ready PDF of the paper built across the week, self-reviewed against the Day 6 template's requirements.

4 Master Resource List

Resource	Best Used For
Overleaf – Learn LaTeX in 30 Minutes	Day 1 crash course; first document, structure, math preview
Overleaf Documentation (overleaf.com/learn)	Topic-by-topic reference for every day of the course
Wikibooks LaTeX (en.wikibooks.org/wiki/LaTeX)	Free companion textbook; deeper explanations and exercises
tablesgenerator.com	Converting Excel/Stata output into LaTeX table code (Day 3)
whiteglobeinitiative.org/published-papers	Real published-paper examples for citation practice (Day 4)
Overleaf Template Gallery (overleaf.com/latex/templates)	Economics/AEA/Elsevier journal templates (Day 6)
TeX StackExchange (tex.stackexchange.com)	Debugging real compile errors (Day 7 and beyond)
“The Not So Short Introduction to LaTeX2e” (lshort, free PDF)	Reference manual once basics are fluent

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