

# A Law Student's Guide to LaTeX and Overleaf: From Apprehension to Advantage

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## It's Time to Add a Tool

You've spent years mastering Microsoft Word and Google Docs. You can format a brief in your sleep, you know the shortcuts for footnotes, and the thought of "track changes" is second nature. These tools are familiar, intuitive, and comfortable. They are the digital equivalent of a well-worn path. So, the idea of learning something called "LaTeX" might sound like a solution in search of a problem, an unnecessary detour into a world of code and complexity.

This guide is here to persuade you otherwise. The goal is not to dismiss your current skills but to add a powerful, specialized tool to your professional toolkit. Adopting LaTeX, especially through the modern platform Overleaf, is an investment that pays dividends in the quality, stability, and professionalism of your written work. It is the single best system for producing complex, long-form documents—the very kind that will define your academic and professional career.

This guide is structured in six parts. First, we will address the "emotional burdens"—the myths and anxieties about LaTeX. Second, we will demystify the core concepts. Third, we will introduce a powerful hybrid workflow using AI. Fourth, we will explore the Overleaf platform itself. Fifth, we will cover the essential skill of debugging. Finally, we will look beyond standard documents to other powerful applications of LaTeX, including presentations and universal document conversion.

## 1 Letting Go—The Emotional Burdens of Embracing a New Workflow

The biggest hurdle in moving to LaTeX is not technical; it is psychological. It requires letting go of the immediate, visual gratification of a "What You See Is What You Get" (WYSIWYG) editor.

## 1.1 Burden 1: "I have to see the final format as I type."

In Word or Google Docs, when you make a word bold, it becomes bold instantly. When you change a margin, the text reflows before your eyes. This constant visual feedback feels productive and reassuring. LaTeX works differently. You write in a plain text editor, using commands to describe how you *want* the document to look.

**The Reframe:** This separation of content and formatting is LaTeX's core strength, allowing you to focus purely on your writing. You describe the *structure* of your content (e.g., this is a section, this is a footnote), and you let the LaTeX engine handle the complex typographical rules. This leads to a more focused writing process and a more consistent, professional final product. And, if you really can't let go of WYSIWIG, many editors, including Overleaf (see below) give you two crutches: the first is a Visual Mode that approximates WYSIWIG capabilities as you write; the second is what is known as "Auto-compile" that lets you see the real-world effects of your edits within seconds of typing them and without a need for any user intervention. Furthermore, as we'll discuss, modern workflows with AI allow you to do your initial drafting in a familiar environment like Word and convert your text to LaTeX later, giving you the best of both worlds.

## 1.2 Burden 2: "It looks like coding. It must be hard."

The appearance of backslashes and curly braces can be intimidating. The fear is that you need to be a computer scientist to use it.

**The Reframe:** This was true twenty years ago, but modern tools have eliminated this barrier. **Overleaf has changed everything** by providing a simple, web-based interface with nothing to install and a live preview.

Moreover, you don't have to write virtually any of the code yourself anymore. With the rise of powerful AI tools, you can now write your draft in a standard word processor and then ask the AI to convert it to clean, well-structured LaTeX code. Your job then becomes one of an editor, not a coder—you simply paste the generated code into Overleaf and refine it. Yes, occasionally the AI will make errors, but generally they are not hard to fix.<sup>1</sup> If you can learn the citation rules in *The Bluebook*, you can absolutely learn to edit the basic commands of LaTeX.

## 1.3 Burden 3: "My collaborators and professors don't use it."

Law school is a collaborative environment. The fear is that using a different tool will isolate you or create workflow problems.

**The Reframe:** Overleaf is built for collaboration. It functions much like Google Docs, allowing multiple users to edit a document simultaneously, leave comments, and track changes. You can simply share a link, and your collaborators can work with you in their web browser

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<sup>1</sup>Overleaf gives you one free "fix" per day using its internal AI. You can pay Overleaf for more. But often you can just plop your LaTeX code into an AI, tell it the error message you are getting, and plead for help. I have had very good success this way.

without needing to install anything. Because LaTeX files are just plain text, they are also incredibly robust and future-proof, preventing the frustrating document corruption that can happen with large Word files. Plus, if you ever collaborate with people in other academic disciplines, particularly the sciences, you will be way ahead; LaTeX is ubiquitous there.

## 2 Understanding the Foundation—The Core Ideas of LaTeX

To use LaTeX effectively, you only need to understand a few fundamental concepts.

### 2.1 Concept 1: The Source Code and the Compiled Output

Your work in LaTeX is divided into two parts:

1. The **.tex file (the source)**: A plain text file where you write your content and embed formatting commands.
2. The **.pdf file (the output)**: The final, beautifully typeset document that LaTeX generates from your source file.

**Analogy:** Think of the source file as the architect's blueprint and the compiled PDF as the finished building. To make a change, you must amend the blueprint (the `.tex` source).

### 2.2 Concept 2: Commands and Arguments

Commands are instructions that start with a backslash (`\`) and often take an "argument" in curly braces (`{}`).

- `\section{Introduction}`: Creates a numbered section heading.
- `\textit{stare decisis}`: Formats text in italics.
- `\footnote{See Marbury v. Madison, 5 U.S. 137 (1803).}`: Creates a perfectly formatted footnote.

### 2.3 Concept 3: The Preamble and the Document Body

- **The Preamble:** Everything before `\begin{document}`. This is where you set up global rules, load packages (`\usepackage{...}`), and define the title and author.
- **The Document Body:** Everything between `\begin{document}` and `\end{document}`. This is where you write your actual content.

### 2.4 Concept 4: Environments

Environments apply formatting to an entire block of text, defined by a `\begin{...}` and `\end{...}` pair. Common examples include `quote` for block quotes and `itemize` for bulleted lists.

## 2.5 Concept 5: Modularity and Keeping Your Work Organized

For large documents, you can split your work into multiple `.tex` files (e.g., `introduction.tex`, `argument.tex`) and use the `\input{...}` command in a master file to assemble them. This keeps your project organized and manageable.

## 2.6 Concept 6: Packages

Packages are the cornerstone of modern LaTeX's success, transforming a basic typesetting system into a versatile powerhouse. At its core, LaTeX handles text and math simply, but packages extend it infinitely—there's one for nearly every need, from advanced graphics (TikZ) and bibliographies (biblatex) to chemistry diagrams (chemfig) and presentations (beamer). Decades of community contributions have built an incredibly rich infrastructure, with over 6,000 packages on CTAN (Comprehensive TeX Archive Network), fostering innovation and reusability.

To find LaTeX packages without getting technical, think of them as add-ons that expand what LaTeX can do. Here's a simple way to discover them:

Visit the main online library for LaTeX tools (called CTAN—it's like a free app store for this stuff) at [ctan.org](https://ctan.org). Just type in keywords like "graphics" or "tables" in their search bar to browse options. Check out a helpful online forum where people ask and answer LaTeX questions (called TeX Stack Exchange—it's like Reddit for this topic). Search there for recommendations on what others use for your needs. Use any regular search engine, like Google, or an AI and type something straightforward such as "LaTeX add-on for drawing diagrams." You'll get quick suggestions.

## 3 The Hybrid Workflow: Using AI as Your LaTeX Converter

The single most powerful way to ease into LaTeX is to not start there at all. You can leverage your existing skills in Word or Google Docs and use Artificial Intelligence as your personal conversion assistant. This hybrid workflow allows you to separate the creative act of writing from the technical act of formatting.

### The Process:

1. **Write in Your Comfort Zone:** Draft your brief, memo, or article in Microsoft Word or Google Docs. Focus entirely on the substance: your arguments, research, and prose. Use the basic styling you're used to—bold, italics, headings, and footnotes.
2. **Use AI to Convert:** When your draft is in a good place, copy the text (or the whole document) and paste it into an AI chat model (like Gemini, Claude, or ChatGPT). Use a prompt like: *"Please convert the following text into well-structured LaTeX. Use the 'article' document class. Ensure that footnotes are created with the <sup>2</sup> command and*

*that section headings are properly identified."*

3. **Review and Refine in Overleaf:** The AI will generate the complete LaTeX source code. Copy this code and paste it into a new, blank project in Overleaf. The PDF will compile on the right, and you will see your document, now professionally typeset. Your job is now simply to review and refine it, fixing any small errors and making adjustments.

This workflow is revolutionary. It allows you to spend 90% of your time focusing on legal writing and only 10% on refining the final, professional layout in Overleaf. It turns LaTeX from something you have to *write* into something you simply *edit*.

## 4 Overleaf—Making LaTeX Easy and Collaborative

Overleaf is the modern interface that makes all of this practical and accessible. It is a cloud-based platform that removes the technical hurdles and adds the collaborative features you are used to.

### 4.1 1. The Two-Pane Editor: Instant Feedback

On the left, you have your `.tex` source code. On the right, you have a live preview of the compiled PDF. As you type on the left, the preview on the right automatically updates, giving you an immediate feedback loop that makes learning intuitive.

### 4.2 2. Nothing to Install, Ever

Overleaf runs a full LaTeX distribution on its servers. You never have to install anything, and your document will compile the same way on any computer, anywhere.

### 4.3 3. Templates, Templates, Templates

Overleaf has a massive gallery of templates for law review articles, moot court briefs, résumés, and more. The most effective way to start is to find a template you like and simply replace the placeholder text with your own content (or with the code generated by your AI assistant).

### 4.4 4. Error Handling for Humans

When your code has an error, Overleaf flags it in plain English and jumps your cursor directly to the line in the source code where the error occurred, making it easy to find and fix.

### 4.5 5. Real-Time Collaboration

Overleaf's collaboration features are on par with Google Docs. You can share a link, see live edits, use a full "Track Changes" feature, and leave comments in the margins of either the source code or the final PDF.

## 4.6 6. Version Control

Screw it up? The free version of Overleaf lets you go back through the 24 hours of changes, which is useful for short-term recovery but not for long projects. You can also compare different versions.

## 4.7 7. Comments

Real-time commenting in Overleaf enables collaborators to add feedback directly on specific parts of the document without altering the text. To use it, highlight a section of the source code or PDF preview, then click the "Add Comment" button (or use the shortcut Ctrl+Alt+M on Windows/Linux, Cmd+Option+M on Mac). Comments appear in a sidebar, tied to the highlighted text, and update instantly for all users. You can reply to comments to create threaded discussions, resolve them once addressed (hiding them but keeping them in history), or delete them if needed. Notifications alert collaborators of new comments or replies.

## 4.8 8. References

Overleaf integrates with popular reference managers like Zotero, Mendeley, and Papers to streamline bibliography handling. To set it up, go to your Overleaf account settings and link your reference manager account—this typically involves authorizing Overleaf to access your library via OAuth. Once connected, you can sync your entire reference collection as a .bib file directly into your project. Changes in the manager (e.g., adding a new citation in Zotero) automatically update the Overleaf bibliography upon sync, and vice versa for some tools. Benefits include easy import of references without manual entry, automatic formatting for various styles (APA, MLA, possibly Bluebook<sup>3</sup>), and real-time updates for collaborative projects.

# 5 Debugging—Your First Aid Kit for LaTeX Errors

No matter how careful you are, you will eventually see a red error message in Overleaf. This is not a sign of failure; it is a normal part of the process. The key is to not be intimidated and to know how to solve problems systematically.

## 5.1 Your Most Powerful Tool: AI Debugging

Before you spend hours searching online forums, use your AI assistant. The odds are extremely high that the AI has seen your exact error thousands of times before.

### The AI Debugging Workflow:

1. **Read the Error:** In Overleaf, look at the error message. It might look cryptic, but it often contains clues.

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<sup>3</sup>There is some complexity here that I am investigating. It may be possible to use a "fork" of Zotero called JurisM and sync it with Overleaf, but this needs investigating (a great student volunteer project

2. **Copy and Paste:** Copy the error message itself. Then, copy the line of code that Overleaf has highlighted as the source of the error, along with a few lines before and after it for context.
3. **Ask the AI:** Paste the error and the code into your AI assistant and ask a simple question, such as: *"I'm getting this LaTeX error. Can you tell me what's wrong with my code and how to fix it?"*

The AI will almost always identify the problem (e.g., "You're missing a closing curly brace on your `\footnote` command") and provide you with the corrected code snippet. This turns a potentially frustrating roadblock into a 30-second fix.

## 5.2 The Top 10 Beginner Errors and Their Solutions

Here are the most common issues you're likely to encounter:

### 1. Missing a Closing Curly Brace }

- **Symptom:** The formatting of your document goes haywire after a certain point, or you get a "Runaway argument?" error.
- **Problem:** `\textit{This is an example`
- **Fix:** `\textit{This is an example}`

### 2. Using a Special Character Without Escaping It

- **Symptom:** Strange errors or characters not appearing. The most common culprits are `&`, `%`, `$`, `#`, `_`, `{`, `}`.
- **Problem:** This will cause an error `&` so will this.
- **Fix:** This will cause an error `\&` so will this. (Put a `\` before the special character).

### 3. Misspelled Command or Environment

- **Symptom:** "Undefined control sequence" error.
- **Problem:** `\seccion{My Title}` or `\begin{itemise}`
- **Fix:** `\section{My Title}` or `\begin{itemize}`

### 4. Missing `\usepackage{}` in the Preamble

- **Symptom:** "Undefined control sequence" for a command that you know is correct.
- **Problem:** You use `\includegraphics{logo.png}` in your document body but forgot to add `\usepackage{graphicx}` in the preamble.
- **Fix:** Add the required package to the preamble.

### 5. Using Math Commands Outside of a Math Environment

- **Symptom:** "Missing \$ inserted" error.
- **Problem:** The variable `_x_` is important. (Underscores are for subscripts in math mode).
- **Fix:** The variable `\textit{x}` is important. or The variable `$x$` is important. if it is mathematical.

## 6. "File Not Found" Error

- **Symptom:** LaTeX can't find an image or an input file.
- **Problem:** `\includegraphics{my_image.PNG}` when the file is actually named `my_image.png`.
- **Fix:** Ensure the file name is spelled *exactly* right, including capitalization and the file extension. Make sure the file has been uploaded to your Overleaf project.

## 7. Text After `\end{document}`

- **Symptom:** "Extra `\endgroup`" or similar errors.
- **Problem:** You have text, even a single character, after the final `\end{document}` command.
- **Fix:** Delete anything that comes after `\end{document}`.

## 8. `\maketitle` Without `\title`, `\author`, or `\date`

- **Symptom:** Error message about missing commands.
- **Problem:** You use `\maketitle` in the document body but haven't defined `\title{...}` in the preamble.
- **Fix:** Make sure to define `\title`, `\author`, and `\date` in the preamble before calling `\maketitle`.

## 9. Incorrect List Item Command

- **Symptom:** Errors inside a list environment.
- **Problem:** Using `*` or `-` to start a list item instead of `\item`.
- **Fix:** Every item in an `itemize` or `enumerate` list must begin with the `\item` command.

## 10. "Paragraph ended before `\somecommand` was complete"

- **Symptom:** A "Runaway argument?" error.
- **Problem:** This often happens when a command that requires an argument (like `\footnote{...}`) is missing its closing brace, and LaTeX keeps reading until it hits a blank line (which signifies a new paragraph).
- **Fix:** Find the command mentioned in the error and ensure its argument is properly enclosed in `{}`.



### 5.3 The Infamous "Overfull \hbox" Warning

You will frequently see a warning (not a red error) that says `Overfull \hbox`. This is not a critical error that stops compilation. It is LaTeX's polite way of telling you: "I have a line of text that is too long to fit within the margins, so it's sticking out a little bit."

This usually happens with long, unbreakable strings of text like URLs or complex chemical formulas. For a draft, **you can usually ignore this warning**. For a final version, you can fix it by:

- Rephrasing the sentence to avoid the long word at the end of a line.
- Using the `url` package (`\usepackage{url}` in the preamble), which allows LaTeX to break long URLs intelligently.
- Manually suggesting a hyphenation point if LaTeX doesn't know how to hyphenate a word.

## 6 Beyond the Brief—Other Applications of LaTeX

Once you are comfortable with the basics, you'll find that the LaTeX ecosystem is useful for much more than just writing papers. Because you are creating structured, plain-text content, you can easily repurpose it for different formats.

### 6.1 Professional Presentations with Beamer

Beamer is a document class for LaTeX that creates professional-quality PDF slideshows instead of standard documents. Think of it as the LaTeX equivalent of PowerPoint or Google Slides.

Why use Beamer?

- **Consistency:** Your presentation will have the same high-quality typography and consistent look as your written papers.
- **Focus on Content:** Just like with an article, you focus on the structure of your presentation (frames, titles, bullet points) and let Beamer handle the layout and design.
- **Reusability:** You can easily copy and paste content, citations, and even complex tables from your LaTeX paper directly into your Beamer presentation without having to reformat anything.

Starting with Beamer is easy in Overleaf. Simply open a new project and choose one of the many available Beamer presentation templates. You'll find the structure is very similar to a standard document, using `\begin{frame}` and `\end{frame}` to define each slide. This is perfect for moot court oral arguments, conference presentations, or teaching.

## 6.2 The Universal Translator: Pandoc

Pandoc is a free, command-line utility that has been called the "Swiss-army knife" of document conversion. It can read and write dozens of different formats. This is an incredibly powerful tool for a student who needs to navigate different format requirements.

With Pandoc, you can:

- **Convert LaTeX to Word:** Write your primary document in Overleaf, and if a professor or journal requires a `.docx` file for submission, you can use Pandoc to convert your `.tex` source into a well-formatted Word document.
- **Convert Markdown to LaTeX:** Many people take notes in a simple, clean format called Markdown. Pandoc can take those notes and convert them into a structured LaTeX document, automatically creating sections and lists.
- **Go from LaTeX to HTML:** If you want to publish an article on a personal website or blog, Pandoc can convert your LaTeX source into clean HTML.

While Pandoc is a command-line tool and not integrated directly into Overleaf, learning its basic commands (e.g., `pandoc mydocument.tex -o mydocument.docx`) is a small time investment that provides immense flexibility, ensuring your work is never locked into a single format.

## Conclusion: An Investment in Your Professional Future

Learning LaTeX and Overleaf is not about abandoning the tools you know. It is about recognizing that for producing high-stakes, professional documents, there is a superior tool available. With AI-assisted workflows, the initial learning curve has been flattened almost completely. You can draft in a familiar space, use AI for the heavy lifting of conversion, and use Overleaf for the final, professional polish.

The documents you produce will have a typographical quality that is difficult to achieve in a word processor. Your workflow will be more stable and organized. You are not just learning a new piece of software; you are adopting a professional standard for scholarly communication.