

Paper Requirements → LaTeX Commands

Document Setup

Requirement	LaTeX Command(s)	Location
8.5"×11" paper	<code>\documentclass[12pt, letterpaper]{article}</code>	main.tex line 1
Times New Roman font	<code>\usepackage{mathptmx}</code>	config/preamble.tex
12pt body text	<code>\documentclass[12pt, ...]{article}</code>	main.tex line 1
1-inch margins	<code>\usepackage[margin=1in]{geometry}</code>	config/preamble.tex

Title Page

Requirement	Command/Implementation	Location
Paper title: 18pt, bold, centered, Title Case	<code>{\fontsize{18}{22}\bfseries\selectfont Your Title\par}</code>	frontmatter/titlepage.tex
Student/advisor names: 12pt, centered	<code>{\fontsize{12}{14}\selectfont Name\Advisor\par}</code>	frontmatter/titlepage.tex
Rest of lines: 14pt, centered	<code>{\fontsize{14}{16}\selectfont University...\par}</code>	frontmatter/titlepage.tex
No page number on title page	<code>\begin{titlepage}...\end{titlepage}</code>	frontmatter/titlepage.tex
Center content	<code>\centering</code>	frontmatter/titlepage.tex
Vertical spacing	<code>\vspace{2in}</code> , <code>\vspace{1in}</code>	frontmatter/titlepage.tex

Abstract

Requirement	Command/Implementation	Location
On its own page	<code>\newpage</code> before abstract	frontmatter/abstract.tex
Roman numeral page "i"	<code>\pagenumbering{roman}</code> + <code>\setcounter{page}{1}</code>	frontmatter/abstract.tex

Requirement	Command/Implementation	Location
Heading "Abstract": centered, bold, 14pt	<code>\section{Abstract}</code> (formatted by config)	frontmatter/abstract.tex
50-100 words, one paragraph	(Manual content enforcement)	frontmatter/abstract.tex
Not indented	<code>\noindent</code> before paragraph	frontmatter/abstract.tex
Keywords: one inch below	<code>\vspace{1in}</code> + <code>\noindent</code> <code>\textbf{Keywords:}</code>	frontmatter/abstract.tex

Executive Summary

Requirement	Command/Implementation	Location
On its own page	<code>\newpage</code> before section	frontmatter/executive_summary.tex
Page number "ii"	Automatic continuation of roman numerals	frontmatter/executive_summary.tex
Title: centered, bold, 14pt	<code>\section{Executive Summary}</code>	frontmatter/executive_summary.tex
Maximum one page	(Manual content control)	frontmatter/executive_summary.tex

Table of Contents

Requirement	Command/Implementation	Location
On its own page	<code>\newpage</code> before TOC	frontmatter/toc.tex
Page number "iii"	Automatic continuation	frontmatter/toc.tex
Title "Table of Contents": centered, bold, 14pt	<code>\renewcommand{\contentsname}{Table of Contents}</code> + <code>\renewcommand{\cfttoctitlefont}{\hfill\fontsize{14}{16}\bfseries}</code>	config/formatting.tex
Do not number sections	<code>\setcounter{secnumdepth}{0}</code>	config/formatting.tex
Include only Level 1 and 2 headings	<code>\setcounter{tocdepth}{2}</code>	config/formatting.tex

Requirement	Command/Implementation	Location
Indent Level 2 headings	<code>\setlength{\cftsubsecindent}{2em}</code>	config/formatting.tex
Dots connecting to page numbers	<code>\renewcommand{\cftsecleader}{\cftdotfill{\cftdotsep}}</code>	config/formatting.tex
Generate TOC	<code>\tableofcontents</code>	frontmatter/toc.tex

Lists of Figures and Tables

Requirement	Command/Implementation	Location
Continue on same page as TOC	No <code>\newpage</code> between them	frontmatter/toc.tex
Separate headings	<code>\section*{List of Figures}</code> + <code>\section*{List of Tables}</code>	frontmatter/toc.tex
Include in TOC	<code>\addcontentsline{toc}{section}{List of Figures}</code>	frontmatter/toc.tex
Generate list of figures	<code>\listoffigures</code>	frontmatter/toc.tex
Generate list of tables	<code>\listoftables</code>	frontmatter/toc.tex

List of Appendices

Requirement	Command/Implementation	Location
Part of TOC, not separate	Manual list in TOC section	frontmatter/toc.tex
Manual entries with dots	<code>\noindent Appendix A: Title \dotfill</code> <code>\pageref{appendix:a}</code>	frontmatter/toc.tex

Introduction Section

Requirement	Command/Implementation	Location
Start on new page	<code>\newpage</code>	chapters/01_introduction.tex
Switch to Arabic numerals (1, 2, 3...)	<code>\pagenumbering{arabic}</code> + <code>\setcounter{page}{1}</code>	chapters/01_introduction.tex

Requirement	Command/Implementation	Location
Level 1 heading "Introduction"	<code>\section{Introduction}</code>	chapters/01_introduction.tex
Level 2: Problem Statement	<code>\subsection{Problem Statement}</code>	chapters/01_introduction.tex
Level 2: Analysis Goals	<code>\subsection{Analysis Goals}</code>	chapters/01_introduction.tex
Level 2: Scope	<code>\subsection{Scope}</code>	chapters/01_introduction.tex

Heading Formats

Requirement	Command	Location
Level 1: Centered, bold, 14pt, Title Case	<code>\titleformat{\section}{\normalfont\fontsize{14}{16}\bfseries\centering}{\thesection}{1em}{}</code>	config/formatting.tex
Level 2: Left-aligned, bold, 12pt, Title Case	<code>\titleformat{\subsection}{\normalfont\fontsize{12}{14}\bfseries\raggedright}{\thesubsection}{1em}{}</code>	config/formatting.tex
Level 3: Left-aligned, bold italic, 12pt, Title Case	<code>\titleformat{\subsubsection}{\normalfont\fontsize{12}{14}\bfseries\itshape\raggedright}{\thesubsubsection}{1em}{}</code>	config/formatting.tex

Body Text Formatting

Requirement	Command/Implementation	Location
12pt font	Set by <code>\documentclass[12pt]</code>	main.tex
Left aligned	Default LaTeX behavior	-
Double spaced	<code>\doublespacing</code>	config/formatting.tex
NOT 1.5 spacing	Using <code>\doublespacing</code> , not <code>\onehalfspacing</code>	config/formatting.tex
No extra spaces between paragraphs	<code>\setlength{\parskip}{0pt}</code>	config/formatting.tex
Indent first line of each paragraph	<code>\usepackage{indentfirst}</code> + <code>\setlength{\parindent}{0.5in}</code>	config/preamble.tex + config/formatting.tex
Except Abstract (not indented)	<code>\noindent</code> before abstract text	frontmatter/abstract.tex

Page Numbers

Requirement	Command/Implementation	Location
Title page: no number	<code>\begin{titlepage}</code> environment	frontmatter/titlepage.tex
Abstract: Roman "i"	<code>\pagenumbering{roman}</code> + <code>\setcounter{page}{1}</code>	frontmatter/abstract.tex
Executive Summary: Roman "ii"	Automatic continuation	-
TOC: Roman "iii"	Automatic continuation	-
Introduction onwards: Arabic 1, 2, 3...	<code>\pagenumbering{arabic}</code> + <code>\setcounter{page}{1}</code>	chapters/01_introduction.tex
Centered at bottom	<code>\fancyfoot[C]{\thepage}</code>	config/formatting.tex
No header line	<code>\renewcommand{\headrulewidth}{0pt}</code>	config/formatting.tex

Page Breaks

Requirement	Command	Location
Abstract starts new page	<code>\newpage</code>	frontmatter/abstract.tex
Executive Summary starts new page	<code>\newpage</code>	frontmatter/executive_summary.tex
Table of Contents starts new page	<code>\newpage</code>	frontmatter/toc.tex
Introduction starts new page	<code>\newpage</code>	chapters/01_introduction.tex
References start new page	<code>\newpage</code> before <code>\printbibliography</code>	main.tex
First Appendix starts new page	<code>\newpage</code> before <code>\begin{appendices}</code>	main.tex
Other sections: NO page break	No <code>\newpage</code> between chapters	-

Figures and Tables

Figure/Table Labels

Requirement	Command/Implementation	Location
Type and number in bold	<code>labelfont=bf</code> in <code>\captionsetup</code>	config/formatting.tex
Description in italics	<code>textfont=it</code> in <code>\captionsetup</code>	config/formatting.tex
Followed by period	Automatic with <code>\caption{}</code>	-
12pt font	Default body text size	-
Center aligned	<code>justification=centering</code> in <code>\captionsetup</code>	config/formatting.tex
Label above figure/table	<code>\caption{}</code> before content is LaTeX convention	Any chapter

Figure/Table Implementation

Requirement	Command	Example Location
Insert a figure	<code>\begin{figure}[h] \centering \includegraphics[width=...]{file.pdf} \caption{...} \label{fig:...} \end{figure}</code>	chapters/05_findings.tex
Insert a table	<code>\begin{table}[h] \centering \caption{...} \label{tab:...} \begin{tabular}{...} ... \end{tabular} \end{table}</code>	chapters/05_findings.tex
Reference figure in text	<code>Figure \ref{fig:label}</code>	Any chapter
Reference table in text	<code>Table \ref{tab:label}</code>	Any chapter

Appendix Figures/Tables

Requirement	Command/Implementation	Location
Prefix with appendix letter	<code>Figure A.1</code> , <code>Table B.2</code> (automatic with appendices environment)	appendices/*.tex
Number accordingly	Automatic within <code>\begin{appendices}</code> environment	appendices/*.tex

Citations and References

Requirement	Command/Implementation	Location
APA style	<code>\usepackage[style=apa, backend=biber]{biblatex}</code>	config/preamble.tex
In-text parenthetical citations	<code>\parencite{key}</code> → (Author, Year)	Any chapter
Narrative citations	<code>\textcite{key}</code> → Author (Year)	Any chapter
Bibliography file	<code>\addbibresource{references/references.bib}</code>	main.tex
Generate references	<code>\printbibliography[title={References}]</code>	main.tex
Continue page numbering	No page number reset	-
References on new page	<code>\newpage</code> before bibliography	main.tex

Appendices

Requirement	Command/Implementation	Location
Start on new page	<code>\newpage</code> before appendices	main.tex
Use appendices environment	<code>\begin{appendices} ...</code> <code>\end{appendices}</code>	main.tex
Number consecutively	Automatic with <code>\usepackage[title]{appendix}</code>	config/preamble.tex
Each with distinctive title	<code>\section{Title}</code> within appendices	appendices/*.tex
Continue Arabic page numbers	No page number reset	-
Label for cross-reference	<code>\label{appendix:a}</code>	appendices/appendix_a.tex

Multi-Panel Figures (Subfigures)

Requirement	Command	Location
Enable subfigures	<code>\usepackage{subcaption}</code>	config/preamble.tex
Create subfigure	<code>\begin{subfigure}{0.3\textwidth}</code> <code>\includegraphics{...} \caption{...} \end{subfigure}</code>	Any chapter
Spacing between subfigures	<code>\hfill</code> between subfigures	Any chapter
Main caption for all	<code>\caption{}</code> after all subfigures	Any chapter
Reference individual panel	<code>\ref{fig:sub_a}</code>	Any chapter
Reference entire figure	<code>\ref{fig:main}</code>	Any chapter

LLM Prompts and Outputs (Custom Requirement)

Requirement	Command/Implementation	Location
Create prompt box	<code>\begin{promptbox} ...</code> <code>\end{promptbox}</code>	config/colors.tex (definition)
Create output box	<code>\begin{outputbox} ...</code> <code>\end{outputbox}</code>	config/colors.tex (definition)
Colored boxes	<code>\usepackage{tcolorbox}</code> + color definitions	config/preamble.tex + config/colors.tex
Prompt box styling	Light blue background, steel blue border	config/colors.tex
Output box styling	Light cream background, goldenrod border	config/colors.tex
Use in document	Insert in methodology or appendix	chapters/04_methodology.tex or appendices/appendix_c.tex

Writing Style Requirements

These are content requirements, not commands, but here's how to enforce them:

Requirement	LaTeX Enforcement	Notes
Formal, academic style	(Manual - writing quality)	-

Requirement	LaTeX Enforcement	Notes
Complete sentences and paragraphs	(Manual)	Avoid itemize/enumerate in prose sections
Past tense for methodology	(Manual)	-
No first-person litanies	(Manual)	-
Proper in-text citations	Use <code>\textcite{}</code> and <code>\parencite{}</code> correctly	Throughout

Prohibited/Restricted Elements

Restriction	How LaTeX Handles It	Implementation
No bullets in prose	Don't use <code>\begin{itemize}</code> in main sections	Manual control
No numbered lists in prose	Don't use <code>\begin{enumerate}</code> in prose	Manual control
No excessive bolding	Use <code>\textbf{}</code> sparingly	Manual control
No local storage in artifacts	N/A for LaTeX paper	-
No section numbering	<code>\setcounter{secnumdepth}{0}</code>	config/formatting.tex

Special Sections - Specific Requirements

Background Section

Requirement	Command	Location
Level 1: Background	<code>\section{Background}</code>	chapters/02_background.tex
Level 2: Literature Review	<code>\subsection{Literature Review}</code>	chapters/02_background.tex
Cohesive narrative with citations	Use <code>\parencite{}</code> throughout	chapters/02_background.tex

Data Section

Requirement	Command	Location
Level 1: Data	<code>\section{Data}</code>	chapters/03_data.tex
Level 2: Data Sources	<code>\subsection{Data Sources}</code>	chapters/03_data.tex
Level 2: Descriptive Analysis	<code>\subsection{Descriptive Analysis}</code>	chapters/03_data.tex
Include results, not just description	(Content requirement)	chapters/03_data.tex

Methodology Section

Requirement	Command	Location
Level 1: Methodology	<code>\section{Methodology}</code>	chapters/04_methodology.tex
Level 2: Feature Engineering	<code>\subsection{Feature Engineering}</code>	chapters/04_methodology.tex
Level 2: Modeling Framework	<code>\subsection{Modeling Framework}</code>	chapters/04_methodology.tex
Level 3: Individual models	<code>\subsubsection{Model 1: Name}</code>	chapters/04_methodology.tex
No graphs/evaluation in methodology	(Content rule)	chapters/04_methodology.tex
Mathematical equations OK	Use <code>\begin{equation} ... \end{equation}</code>	chapters/04_methodology.tex

Mathematical Content

Requirement	Command	Location
Inline math	<code>\$equation\$</code>	Any chapter
Display equations	<code>\begin{equation} ... \end{equation}</code>	Any chapter
Equation numbering	Automatic with equation environment	-
Reference equations	<code>\label{eq:name}</code> and <code>\ref{eq:name}</code>	Any chapter
Math symbols	<code>\usepackage{amsmath}</code> , <code>\usepackage{amssymb}</code>	config/preamble.tex