

# HOW TO TYPESET THESES

## Using iiscthesis style for L<sup>A</sup>T<sub>E</sub>X

A THESIS  
SUBMITTED FOR THE DEGREE OF  
**Doctor of Philosophy**  
IN THE FACULTY OF ENGINEERING

by

**My Name Here**



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TO

*Donald Knuth*

*and*

*His Ingenuity*

# Acknowledgements

Many thanks to all the persons who made this style file. It will certainly live long!  
Detailed acknowledgements are available within the style file itself.

# Vita

IISc was born in 1909 and will celebrate its centenary with great fanfare in the year 2008.

# Publications based on this Thesis

1. IISc INDEST Committee, How to Typeset Theses: Using iiscthis style for  $\text{\LaTeX}$ , Indian Institute of Science, 2004.

# Abstract

*This manual tells you how to use the `iiscthes` style to produce professional theses (Ph.D., M.Sc.(Engg) or M.E. reports). This style is a modification of the standard  $\LaTeX$  report style. This document is written using the `iiscthes` style itself.*

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# List of Tables

# List of Figures

# Keywords

**LaTeX, thesis, project report, IISc style, style file.**

Note: Kindly provide a standard classification for keywords, such as, ACM Computing Classification, JEL Classification, AMS Classification etc.

# Notation and Abbreviations

No notation is used in this document. No abbreviations have been used either.

# Chapter 1

## Introduction

### 1.1 What is this style?

With the advent of modern typesetting systems like  $\text{\LaTeX}$ [1], writing a document has become child's play. To make it an infant's play, this style is designed. This style modifies the standard  $\text{\LaTeX}$  report style to make it useful for theses.

It sets appropriate margins and interline spacings. It facilitates creation of additional sections before normal chapters (like acknowledgements, abstract, notation etc.) and includes titles of these sections in the table of contents. It creates a titlepage which includes the logo of I.I.Sc. It defines certain additional macros to enable fine tuning.

This document assumes a basic knowledge of  $\text{\LaTeX}$ [1]. To use this style, you should study the  $\text{\LaTeX}$  code of this manual along with the manual.

Currently, the authorities of I.I.Sc. do not specify any standard for typesetting a thesis. This style is supposed to introduce a standard for I.I.Sc. theses.

### 1.2 Organization of this manual

The next chapter of this manual tells how to create the titlepage with the I.I.Sc. logo and the front matter which comes before the regular chapters of a thesis. The third chapter explains the default page layout and interline spacing. The fourth one describes

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additional macros defined in this style which are useful for fine tuning. Finally, appendix A tells you how and where to place an appendix.

# Chapter 2

## Title page and Front Matter

### 2.1 The Title Page

The following macros define what goes in the titlepage.

`\title{thesis title}`

- You may specify the line break using `\\`.

`\author{author's name}`

- I am sure you won't forget this!

`\dept{author's department}`

- Computer Science and Automation by default.

`\enggfaculty`

- or `\sciencefaculty` (`\enggfaculty` by default).

`\phd`

- or `\mscengg` or `\meoneandhalf` or `\meintegrated` (`\phd` by default)

`\submitdate{month year in which submitted}`

- Current month and year by default.

`\iisclogotrue` or `\iisclogofalse`

- produce or don't produce the Iisc emblem. (false by default)

The command `\maketitle` produces the titlepage which includes the information defined by the above macros.

## 2.2 The front matter

The frontmatter environment encloses the pages which are normally numbered using roman numbers.

The following commands control what goes in the front matter material:

`\prefacesection{section title}`

- Defines a special section such as an abstract, a preface or background in the frontmatter. Three sections which are often used, can be defined as below.

`\acknowledgements`

- Defines an acknowledgements section.

`\vita`

- Defines a personal vita section.

`\publications`

- Defines a publications section. A list of publications based on the author's thesis can be placed here.

`\keywords`

- Defines a keywords section. The keywords should be classified using one of the standard classification schemes, such as ACM Computing Classification, JEL Classification (Economics related), AMS Classification (Mathematics related), etc. You could choose to include a **glossary** as an appendix.



`\notations`

- Defines a notations and abbreviations section.

`\figurespagetrue` or `\figurespagefalse`

- produce or don't produce a List of Figures page (true by default)

`\tablespagetrue` or `\tablespagefalse`

- produce or don't produce a List of Tables page (false by default)

`\makecontents`

- produces the table of contents, tables and figures. Creation of the last two tables depends on the above two declarations.

`\begin{dedication} ... \end{dedication}`

- environment for producing a dedication page.

You may put an abstract in the front matter using the `\prefacesection{Abstract}`.

# Chapter 3

## Page Layout and Line Spacing

### 3.1 Default page layout

The current page layout is as follows:

textwidth:	450pt (approx. 16cm)
textheight:	635pt (approx. 8.8cm)
side margins:	3.5cm
headsep:	40pt

This makes full use of the available paper. So do not increase any of the dimensions. If you desire, you may decrease them.

**Note:** This layout assumes that the thesis will be printed on an A4 size paper. When you xerox it on thesis size paper, make sure that the right edges of the originals match with the right edges of the thesis size paper, so that you get the necessary extra space towards left for binding.

### 3.2 Line spacing

Double spacing is used by default. Default spacing can be changed by the command `\setstretch` which takes the spacing as its argument. (The default is `\setstretch{1.5}`.)

Unfortunately, that command probably won't take effect unless it comes before the `\begin{document}`.

Additional points regarding “double spacing”:

1. New environments “`singlespace`”, “`onehalfspace`” and “`doublespace`” are provided, within which single, onehalf and double spacing will apply.
2. Double spacing is turned off within table of contents, footnotes and floats (figures and tables).
3. Proper double spacing happens below tabular environments and in other places where  $\text{\LaTeX}$  uses a strut.
4. Slightly more space is inserted before footnotes.
5. Fixes spacing before and after displayed math.

---

This is a sample single spaced text created using the `singlespace` environment. Would you prefer this or the default double spaced one? You can have intermediate effect by `\setstretch{1.3}`.

---

# Chapter 4

## Fine Tuning

IISc thesis style defines the following macros to fine tune the typesetting according to your taste.

### 4.1 Renaming bibliography

Use `\bibtitle{References}` to get “References” (or whatever argument you give) as the heading for the Bibliography section. “Bibliography” is the default.

### 4.2 Index

To produce an index for your thesis, mark index entries in the text by using `\index` command. Then run `makeindex` like `bibtex` after the first pass of `LATEX`. This will produce a file `jobname.ind` which will get included automatically in the subsequent passes. If you do not run `makeindex`, no index gets created. For more details see the `LATEX` book [1] and `makeindex` documentation.

### 4.3 Page Headings

Now you can have page headings in boldface instead of slanted and upper-cased chapter/section headings. It also underlines the headings as in the L<sup>A</sup>T<sub>E</sub>X book [1]. See the heading on this page. To use this feature, place `\pagestyle{bfheadings}` in your preamble.

# Chapter 5

## Conclusions

IISc thesis style provides a simple way to typeset theses in an excellent and pleasant manner. Its use is highly recommended. Additions or modifications are most welcome. Send them (and the bug reports) to

The Almighty  
<almighty@admin.iisc.ernet.in>

# Appendix A

## My Appendix

Bibliography commands as in the LaTeX book [1] may be used. For more details on LaTeX, please see [1].

# References

- [1] Lamport, L. LaTeX: A Documentation System, Addison-Wesley Publishing Company, 1986.



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