



## About the event:

LaTeX, a high-quality typesetting system, has become the standard for creating technical and scientific documents. It is an essential tool for researchers and professionals, offering unmatched precision and efficiency in creating technical documents, research papers, and theses. Unlike traditional word processors, it provides powerful features for handling complex mathematical equations, automated formatting, dynamic cross-referencing, and bibliography management. It's an essential tool for students, researchers, and professionals looking to enhance their writing skills.

This value-added course, planned to be conducted on week-ends and evenings, will equip participants with the skills to produce high-quality, publication-ready documents, making it an invaluable resource for students, researchers, and anyone involved in technical writing.

## Lectures Scheduled:

- **LaTeX:** Text formatting, Document Structure.
- Mathematics, Figures, Tables, Graphics.
- Citations, References & Bibliographies.
- **Beamer Presentations.**
- Advanced Documentations.
- **TikZ and PGFPlots**, Advanced TikZ & PGFPlots.
- Final Project with Q&A.

## Mode: Blended mode

### Offline Venue: TT135

Time: 10:00 AM to 5:15 PM

### Online Platform: Microsoft Teams

Time: 10:00 AM to 5:15 PM

Time: 05:30 PM to 09:00 PM

## Advisory Committee:

### Dr. Jasmin Pemeena Priyadarisini

Professor and Dean,  
School of Electronics Engineering (SENSE),  
Vellore Institute of Technology, Vellore, India.

### Dr. V. Noor Mohammed

Department of Communication Engineering,  
SENSE, VIT Vellore.

### Dr. B Karthikeyan / HoD

Department of Embedded Technology,  
SENSE, VIT Vellore.

## Coordinators

**Dr. J. Christopher Clement**, Professor

**Dr. K.C. Sriharipriya**, Associate Professor

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## Resource Persons:

**Dr. J. Christopher Clement**, VIT, Vellore

**Dr. K.C. Sriharipriya**, VIT Vellore.

## Registration fees for Participants

**UG / PG Students** : Rs.500/-

**Research Scholars** : Rs. 500/-

**Faculty** : Rs. 750/-

**Registration Link:** (Last Date: 20<sup>th</sup> Jan 2025)

<https://events.vit.ac.in/>

## Value Added Course on

## VAC2411 – Technical Documentation with Latex

**25<sup>th</sup> January to 16<sup>th</sup> February  
2025**

## Organized by

**Department of Communication  
Engineering &  
Department of Embedded  
Technology**

## School of Electronics Engineering

**Vellore Institute of  
Technology, Vellore**

# Lecture Schedule

Sessions are planned to be conducted during Week-ends and evenings.

| Session (3 hrs / session) | Topics   |
|---------------------------|--|
| Session 1                 | <b>Introduction to LaTeX</b> : What is LaTeX? History and Uses, Installing LaTeX: TeXLive, MiKTeX, Overleaf, Basics of a LaTeX Document: Structure, Compiling, Writing Text: Sections, Subsections, Paragraphs.                        |
| Session 2                 | <b>Text Formatting and Document Structure</b> : Fonts, Styles, and Sizes, Lists: Enumerate, Itemize, and Description, Special Characters and Spaces, Creating a Title Page, Abstract, and Table of Contents                            |
| Session 3                 | <b>Mathematics in LaTeX</b> : Inline and Display Math, Common Mathematical Symbols, Fractions, Roots, Exponents, Aligning Equations, Multi-line Equations, Theorems, Lemmas, and Proofs  |
| Session 4                 | <b>Figures, Tables and Graphics</b> : Including Graphics: graphicx Package, Creating Tables: tabular, tabu, long table, Positioning Figures and Tables, Captions and Labels  |
| Session 5                 | <b>References, Citations and Bibliographies</b> : Creating and Referencing Labels, Citations: bibtex and biblatex<br>Creating a Bibliography, Managing References with Tools like Zotero and Mendeley                                  |
| Session 6                 | <b>Beamer Presentations</b> : Introduction to Beamer, Creating Slides, Sections, and Subsections, Themes and Customization<br>Adding Figures, Tables, and Code Snippets, Animations and Overlays                                       |
| Session 7                 | <b>Advanced Document Documentation</b> : Customizing Headers and Footers, Footnotes, Margin Notes, and Endnotes<br>Custom Commands and Environments, Managing Large Documents: include and input, Creating Index and Glossary          |
| Session 8                 | <b>TikZ and PGFplots</b> : Introduction to TikZ: Drawing Basics, Nodes, Edges, and Paths, Creating Flowcharts and Diagrams<br>Plotting Data with PGFPlots, Customizing Plots and Adding Annotations                                    |
| Session 9                 | <b>Advanced TikZ and PGFplots</b> : Complex Diagrams: Trees, Graphs, Networks, Advanced TikZ Libraries: Positioning, Matrix, and Fit, Creating 3D Plots with PGF Plots, Integrating TikZ with Beamer                                   |
| Session 10                | <b>Final Project and Advanced topics</b> : Working on a Comprehensive LaTeX Project, Exploring Additional Packages (e.g., siunitx, todonotes, minted), Tips for Writing Dissertations, Articles, and Books, Final Q&A and Course Recap |