LATEX FOR ACADEMIC WRITING

LaTeX is a high-quality typesetting system which is widely used for document preparation in academics. Nowadays, LaTeX is used not only to write documents in mathematics but also Physics, Computer Science, Engineering, Economics, Psychology, Social and Political Sciences.

LaTeX is preferably used for technical/scientific papers writing for journals by researchers, engineers and mathematicians at large. In contrast to Microsoft Word, LaTeX can handle large documents very easily.

Learning Objectives:

- This course aims to provide a comprehensive theoretical and hands on practice with LaTeX for document preparation.
- To introduce students with an online LaTeX writing platform through Overleaf that allows them to easily typeset and collaborate on perfectly formatted scientific and technical documents.
- To make students know the importance of LaTeX for publishing research articles, papers, project reports and presentations.
- To master students in handling large documents containing sections, cross-references, tables, mathematical equations, footnotes and figures.

Learning Outcomes:

After successfully completing Elementary Course in LaTeX, students will be able to: -

- Independently typeset mathematical, scientific and general-purpose documents in a well-organized manner with accuracy.
- Use of LaTeX and various templates acquired from the course to compose mathematical documents, presentations and reports.
- Easily share and collaborate their work with co-authors.
- Inserting images, tables and adjusting their alignments in seconds.
- Adding references and citations in different journal styles.
- Automatic generation of Table of contents, List of tables, List of figures, bibliographies and index.

Module 1- Introduction **(10 Hours)**

Creating a document in Overleaf, Uploading a project, Copying a project, Creating a project from a template Using the Overleaf project menu, Including images in Overleaf, Exporting your work from Overleaf, Working offline in Overleaf, Debugging Compilation timeout errors.

Module 2- Basic Concepts for writing in LaTeX **(10 Hours)**

Creating your first LaTeX document, choosing a LaTeX Compiler, Paragraphs and new lines, Bold, Italics and Underlining, Colors to a block of text, Lists, Figures and tables: Inserting Images, Tables, Positioning Images and Tables, Lists of Tables and Figures, Adding references and citations.

Module 3- Mathematics **(10 Hours)**

Mathematical expressions, Subscripts and Superscripts, Brackets and Parentheses, Matrices, Fractions, Binomials, Integrals and Vectors, aligning equations, Operators, spacing in math mode, limits, Display, List of Greek letters and math symbols, Mathematical fonts, Using the Symbol Palette in Overleaf.