INTRODUCTION

LaTeX, a document preparation system, is widely used for publishing in many scientific fields like mathematics, statistics, computer science, engineering, chemistry, physics, economics, linguistics, etc.. It is a powerful and open-source system that provides numerous facilities for automating typesetting of the document: i.e. structuring page layout, listing and auto-numbering of sections, tables, figures, generating a table of contents, managing cross-referencing, citing, and indexing.

Unlike other WYSIWYG editors, the content is written in plain text along with appropriate commands, thus, allowing the user to concentrate on the content rather than the aesthetics (the way it looks). The TeX type setting program which LaTeX uses, was designed such that anyone can create good quality material with less efforts.

This course introduces the basic concepts of LaTeX. Participants taking this course will be able to create and design documents in LaTeX and presentations in Beamer with confidence.

Course Content

In this course you will learn to:
- Handle different types of documents
- Organize documents into different sections, subsections, etc..
- Formatting pages (margins, header, footer, orientation)
- Formatting text

Write complex mathematical formulae
- Include tables and images
- Cross-referencing, bibliography, and Indexing
- Read error messages as and when required
- Create presentations using Beamer

The detailed description is given below:

COURSE CONTENT

Topic 1: Introduction

This topic introduces the learner to LaTeX, its installation, and different IDEs. The learner creates the first document using LaTeX, organizes content into sections using article and book class of LaTeX.

Topic 2: Styling Pages

In this topic, the session starts by reviewing different paper sizes, examines packages, formats the page by setting margins, customizing header and footer, changing the page orientation, dividing the document into multiple columns. The topic ends with reading different types of error messages.

Topic 3: Formatting Content

This topic concentrates on formatting text (styles, size, alignment), adding colors to text and entire page, and adding bullets and numbered items. It concludes by explaining the process of writing complex mathematics.

Topic 4: Tables and Images

The topic starts by creating basic tables, adding simple and dashed borders, merging rows and columns, and handling situations where a table exceeds the size of a page. The sessions then continue to add an image, explore different properties like rotate, scale, etc..

Topic 5: Referencing and Indexing

In this topic, the learner learns to add cross-referencing (refer to sections, table, images), add bibliography (references), and create back index.

Topic 6: Presentation using Beamer

Introduction to creating slides, adding frames, dividing the slide into multiple columns, adding different blocks, etc..

TEACHING FACULTY

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2. **Firuza Karmali,** Project Manager, Dept. of CSE, IIT Bombay

3. **Nagesh Karmali,** Sr. Manager (Research), Dept. of CSE, IIT Bombay

DURATION

Registration Opens	30th Aug 2019
Registration Ends	14th Oct 2019
Course Starts	24th Sep 2019
Course Ends	11th Nov 2019
Total Duration	7 weeks

PREREQUISITES

There are no prerequisites for this course, except knowledge of editing text.

WHO SHOULD ATTEND?

The course can be taken by any learner who wants to create documents using LaTeX but especially for those who need to write articles or books, create project reports, submit papers to national / international conferences, etc..

COURSE FEE AND CERTIFICATION

The registration fee for the course is Rs. 300/-. Honor Code Certificates will be issued on successful completion of the course, based on the grading policy mentioned in the course. Please note that all certificates will be issued online. No hard copies will be given.

HOW TO APPLY

The course can be taken by any learner who wants to create documents using LaTeX but especially for those who need to write articles or books, create project reports, submit papers to national / international conferences, etc..

To register online, please visit:

www.it.iitb.ac.in/lakshya

Registration will be strictly online, and no other mode of application will be entertained. The enrollment is opened from 30 Aug to 30 Sep.

Registration process for the Program:

- Sign up using your valid email id:
  https://www.it.iitb.ac.in/lakshya/signup.html
- After verification, your account will be created
- Login on the website with the verified account
- Click 'Announcements', select the program and click 'Register'
- After successful registration, you will receive an automated email. Your name will be listed in the 'List of Participants page'
- Thereafter register on IITBombayX site (https://courses.iitbombayx.in/register) using the same email id to access the course content

NOTE

The course content is released under Open Source License. All participants must agree that the content contributed by them in any form, (assignments, questions, etc.) would be released under Open Source Licence, by accepting the terms

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LaTeX for Students, Engineers, and Scientists

24 September to 11 November 2019

Conducted by

IIT Bombay

Course Coordinator

Prof Deepak B. Phatak

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