LaTeX for Students, Engineers, and Scientists

Programme Overview

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 typesetting 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:

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 articles 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 creating a 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

Prof (Retired) Deepak B. Phatak, Dept. of CSE, IIT Bombay

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

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

Duration and Venue

Registration Opens	July 1, 2020
Registration Ends	October 16, 2020
Course Starts	July 15, 2020
Course Ends	November 15, 2020
Total Duration	6 Weeks

This course will be conducted in a self-paced mode, i.e. all the lecture videos, slides, reading materials, activities, and graded assignments will be released on when the course starts. This gives you the flexibility of progressing and completing the graded assignments at your own pace. However, but one would need to complete them before the course ends.

Who Should Attend

There are no prerequisites for this course, except for the knowledge of editing text. 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. 375/-.** However, register before **16 August 2020** for **Rs. 325/-** only to avail an early bird registration discount. Please note that the registration fee once paid is neither refundable nor adjustable under any circumstances

Important payment instructions:

In case of a course fee transaction failure, the participant will get an auto generated mail with instructions for further process. Please go through the mail carefully. If the amount is

already debited to your account, please do not make another payment. In case of a double payment (or more than once), please send a mail to dbpaccounts@cse.iitb.ac.in requesting for a refund. The participant will also have to check the following link for his/her vendor creation in order to get a refund. IIT Bombay will not be able to process the refund (for any reason) if the vendor creation, as per IIT Bombay's requirement, is not completed by the participant. **Link**:- https://portal.iitb.ac.in/vrp/index.jsp

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

Enrollment will be strictly online, and no other mode of application will be entertained. The online registration for the course will start on **1 July 2020**. It will remain open till **16 October 2020**.

Registration process for the Program:

- Sign up using your valid email id on the website: https://www.it.iitb.ac.in/lakshya/signup.html

- After verification, your account will be created

- Login on the website with the verified account

- Go to Announcements, select the program and 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 mentioned under 'No Objection Certificate'. All contributors will be acknowledged.