University of Kerala

Discipline	Mathematics				
Course Code	UK4SECMAT200				
Course Title	Typesetting Documents with LaTeX				
Type of Course	SEC				
Semester	IV				
Academic Level	200-299				
Course Details	Credit	Lecture per week	Tutorial per week	Practical	Total Hours per week
	3	2	-	2	4
Pre-requisites	Basic computer knowledge				
Course Summary	This course provides the basics of LaTeX programs which enable the students to create good quality scientific documents and presentations				

Detailed Syllabus

Module	Unit	Contents	Hrs
I		**Basics of LaTeX**	**10**
	1	What is LaTeX, Simple typesetting, Fonts, Type size (Chapter 1 of Text [2])	
II		**Typesetting Mathematics**	**20**
	2	Basics of typesetting (Section 8.1 complete) Single Equations (equation, equation*, split) Group of Equations (gather, gather*, align, align*, cases) Matrices and Determinants (matrix, pmatrix, bmatrix, vmatrix) Putting one over another (frac, dfrac, int, lim, sum, prod) The above topics can be found in 8.1, 8.3.1, 8.3.2, 8.4.2 and 8.4.4 of Text [2]. Basics of typesetting Theorems and amsthm package (9.1 to 9.2.1 of Text [2]) Do Exercise questions 4, 5, 6 and 7 of Chapter 9 of Text [1].	

Module	Unit	Contents	Hrs
III	**Tables and Figures**		**15**
	3	Typesetting basic tables. Merge cells using $\backslash multicolumn$ (7.2 of Text [2], except the portion using $\backslash renewcommand$) Inserting pictures using Graphicx package (12.1.1 to 12.1.3 of Text [2], except the portion on pstricks), Creating Floating Figures (11.1.1 of Text [2])	
IV	**Beamer Presentation:**		**15**
	4	What is Beamer. Thinking in terms of frames. Set up a Beamer document. Enhance a Beamer presentation. (11.1 to 11.4 of Text [1], except the portion using pstricks)	

Textbooks

1. Donald Binder, Martin Erickson, A student's guide to the study, practice and tools of modern mathematics, CRC Press, 2010.
2. E. Krishnan, The LaTeX Tutorial: A Primer, by The Tutorial Team, Indian TeX Users Group, Sayahna Foundation, http://www.sayahna.org, 2020.

References

1. Dilip Datta, LaTeXin 24 Hours, A Practical Guide for Scientific Writing, Springer, 2017.
2. Hubert Partl, Irene Hyna and Elisabeth Schlegl, The Not So Short Introduction to LaTeX2ϵ, Tobias Oetiker, Version 6.4, 09 March 2021.

E- resources

1. https: //www.overleaf.com/learn/latex/Learn_LaTeX_in_30_minutes

Course Outcomes

CO No.	Upon completion of the course the graduate will be able to	PO/PSO	Cognitive Level	Knowledge Category	Lecture(L) Tutorial (T)	Practical (P)
CO 1	Understand the basics of LaTeX programs	PSO1, PO7	U	F,C	L	P
CO 2	Create good quality scientific documents	PSO5, PO3	Ap,C	P	L	P
CO 3	Create good quality presentations	PSO5, PO3, 4	Ap, C	P	L	P

(R-Remember, U-Understand, Ap-Apply, An-Analyse, E-Evaluate, C-Create)
(F-Factual, C-Conceptual, P-Procedural, M-Metacognitive)

Mapping of CO with PSOs and POs

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	1												3	
CO2					3				2					
CO3			-	-	3				3	3				

(- -Nill, 1-Slightly/Low, 2-Moderate/Medium, 3-Substantial/High)

Assessment Rubrics

- Quiz/Assignment/Discussion/Seminar
- Midterm Exam
- Programming Assignments
- Final Exam

Mapping of COs to Assessment Rubrics

	Internal Examination	Assignment	Project Evaluation	End Semester Exam
CO1	✓	✓		✓
CO2	✓	✓	✓	✓
CO3	✓	✓	✓	✓