



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Information Technology

Choice Based Credit System (CBCS) in the light of NEP-2020

Generic Elective

SEMESTER-V (2024-28)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME						L	T	P	CREDITS
			Marks	THEORY			PRACTICAL					
				END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
VUMA101	SEC	LaTeX for Presentations & Writing	Max				60	40	0	2	2	3
			Min				27	18				

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit; *Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:

The student will have ability to:

1. Introduce document preparation using **LaTeX**, the global standard for scientific and mathematical typesetting.
2. Typeset complex mathematical equations, matrices, tables, calculus notations, and align multi-line proofs.
3. Create professional presentations (Beamer), academic reports, and manage bibliographies.

COURSE ALIGNMENT WITH UNSDG:

The Course aims to fulfill the United Nations Sustainable Development Goals, **SDG 4 (Quality Education)** and **SDG 9 (Industry, Innovation and Infrastructure)**.

COURSE OUTCOMES:

After completion of the course, the student will be able to:

- | | |
|------------|--|
| CO1 | Understand the fundamental concepts of LaTeX typesetting and basic document structure. |
| CO2 | Typeset complex mathematical expressions, notations, and multi-line equations. |
| CO3 | Design structured tables, format matrices, and insert graphics efficiently. |
| CO4 | Develop academic presentations using Beamer, manage citations/bibliographies, and prepare complete scientific documents. |

TEACHING PEDAGOGY:

- | | |
|-----------|---|
| T1 | Classroom teaching (white board), Power Point Presentations, Interactive lectures, Inquiry-based teaching |
| T2 | ABL activities, Assignments, Flip Class/ Seminars, Quizzes, Oral Viva-voce examination |

ASSESSMENT TOOLS:

- | | |
|-------------|-------------------------|
| ATL1 | Quiz |
| ATL2 | Activity Based Learning |
| ATL3 | Midterm Exams |
| ATL4 | Seminar Presentation |

Chairperson

Board of Studies,
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies,
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examination

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Information Technology

Choice Based Credit System (CBCS) in the light of NEP-2020

Generic Elective

SEMESTER-V (2024-28)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME						L	T	P	CREDITS
			Marks	THEORY			PRACTICAL					
				END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
VUMA101	SEC	LaTeX for Presentations & Writing	Max				60	40	0	2	2	3
			Min				27	18				

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

ATL5	Assignments
ATL6	Poster
ATL7	Oral Viva-voce examination

PREREQUISITES:

Basic computer literacy and familiarization with basic mathematical concepts.

SYLLABUS:

Module	Descriptors/Topics	Hours	Assessment Tools
I	Introduction to LaTeX & Basic Formatting: Introduction: What is LaTeX? Difference between Word Processors (WYSIWYG) and LaTeX (Typesetting). Document Structure: Structure of a .tex file: Document classes (article, report, book), preamble, \begin{document} and \end{document}. Text Formatting: Font styles (bold, italics, underline), font sizes, alignment, lists (itemize, enumerate, description), special characters, and comments (%). Sectioning: Titles, authors, dates, sections, subsections, and Table of Contents (\tableofcontents).	12 Hours	ATL1 ATL2 ATL3 ATL5 ATL6
II	Mathematical Typesetting & Equation Environments: Inline vs. Display Math: Inline (\$) and display math (\$\$ or \[... \]). Basic Notation: Greek letters ($\alpha, \beta, \gamma, \theta, \pi, \sigma$), Superscripts (x^n), Subscripts (x_i), Fractions ($\frac{a}{b}$), Square roots ($\sqrt{x}$). Operators & Symbols: $\pm, \times, \div, \leq, \geq, \neq, \approx, \infty$.	12 Hours	ATL1 ATL2 ATL3 ATL5 ATL6
III	Advanced Mathematical Expressions: Calculus: Limits (lim), Summations (Σ), Integrals ($\int$), Derivatives ($\frac{dy}{dx}$).	12 Hours	ATL1 ATL2 ATL3 ATL5

Chairperson

Board of Studies,
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies,
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examination

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Information Technology

Choice Based Credit System (CBCS) in the light of NEP-2020

Generic Elective

SEMESTER-V (2024-28)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME						L	T	P	CREDITS
			Marks	THEORY			PRACTICAL					
				END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
VUMA101	SEC	LaTeX for Presentations & Writing	Max				60	40	0	2	2	3
			Min				27	18				

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit; *Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

	Set Theory & Logic: $\cup, \cap, \in, \subset, \forall, \exists, \implies, \iff$. AMS-LaTeX (amsmath): Numbered/unnumbered equations (equation, equation*), multi-line alignment (align, gather, split), auto-resizing delimiters ($\left($, $\right)$).		ATL6
IV	Matrices, Tables & Graphics: Matrices & Determinants: Typesetting using <code>pmatrix</code> , <code>bmatrix</code> , <code>vmatrix</code> , and <code>matrix</code> environments. Tables: tabular environment, column alignment (l, c, r), borders (<code>\hline</code>), and merging cells (<code>\multicolumn</code>). Inserting Graphics: Using <code>graphicx</code> , <code>\includegraphics</code> , setting width/scale, captions, and cross-referencing (<code>\label</code> , <code>\ref</code>).	12 Hours	ATL1 ATL2 ATL3 ATL5 ATL6
V	Beamer Presentations, Bibliography & Project: Beamer Presentations: Document class <code>beamer</code> , frames, slide titles, overlay effects (<code>\pause</code>), and themes. Bibliography & References: <code>thebibliography</code> or BibTeX for citations. Final Hands-on Project: Typesetting a 2-page mathematical paper or a 5-slide Beamer presentation including equations, matrices, tables, and figures.	12 Hours	ATL1 ATL3 ATL4 ATL6 ATL7
Total Hours		60	

ADDITIONAL RESOURCES

A.	Value addition to course content/ Skill enhancement content:
	Hands-on workshops on LaTeX graphics packages like TikZ and using Git version control with Overleaf.
B.	Remedial classes for slow learners:
	As per the AUMP SOP for slow and fast learners.

SUGGESTED READINGS:

Chairperson

Board of Studies,
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies,
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examination

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Information Technology

Choice Based Credit System (CBCS) in the light of NEP-2020

Generic Elective

SEMESTER-V (2024-28)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME						L	T	P	CREDITS
			Marks	THEORY			PRACTICAL					
				END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
VUMA101	SEC	LaTeX for Presentations & Writing	Max				60	40	0	2	2	3
			Min				27	18				

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit; *Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Textbooks	
1.	Leslie Lamport, <i>LaTeX: A Document Preparation System</i> , Addison-Wesley.
2.	Stefan Kottwitz, <i>LaTeX Beginner's Guide</i> , Packt Publishing.
Reference Books	
1.	Frank Mittelbach et al., <i>The LaTeX Companion</i> , Addison-Wesley.
2.	George Grätzer, <i>More Math Into LaTeX</i> , Springer.
3.	Tobias Oetiker et al., <i>The Not So Short Introduction to LaTeX2e</i> .
Suggested e- resources (Websites/e- books)	
1.	Overleaf Documentation & Tutorials
2.	TeX - LaTeX Stack Exchange

COURSE ARTICULATION MATRIX (MAPPING OF COs WITH POs)

Course Outcomes	Correlation with POs												Correlation with PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1															
CO2															
CO3															
CO4															

Chairperson

Board of Studies,
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies,
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examination

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore