Name of College: S. R. Luthra Institute of Management			
Faculty	Management	**Program**	Master of Business Administration (M.B.A.)
Year	II	**Version**	1.0
Semester	3	**Effective From**	June 2025
Course Code	MGMB18301	**Course Name**	Advance Statistics (AS)

Teaching Scheme				**Examination Scheme**				
Credits	**Lecture (L)**	**Tutorial (T)**	**Practical (P)**	**ME**	**CE**	**SE**	**V**	**Total**
4	4	0	0	30	40	50	---	120

Course Outcomes:

CO1	*Understand* inferential statistics, including sampling methods and their significance in business and research decision-making.
CO2	*Apply* hypothesis testing and regression techniques to analyze relationships and make data-driven predictions.
CO3	*Analyze* time series data to identify patterns and implement forecasting models for business, economic, and financial applications.
CO4	*Apply* simulation modeling and decision trees for optimal decision-making in industry.

Mapping Course Outcomes to Program Outcomes:

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**
CO1	3	3	1	1	1	1
CO2	3	3	1	1	1	1
CO3	3	3	1	3	1	2
CO4	3	3	1	2	2	2

Sr. No	Module	Description	CO	Marks	Hours
1	I	Introduction inferential statistics • Definition and importance of inferential statistics • Sampling and Sampling Distributions • Applications of inferential statistics in business and research	1	12	10
2	II	Hypothesis Testing • Simple Linear Regression • Multiple Linear Regression • Logistic Regression	2	12	10
3	III	Time Series Analysis • Definition and importance of time series analysis • Applications of time series analysis in business, finance, and economics • Plotting and visualizing time series data • Time Series Forecasting Models	3	13	10
4	IV	Prescriptive Analytics • Applications of prescriptive analytics in industries • Simulation Modelling • Decision Analysis using decision tree	4	13	10

REFERENCE

Books:	
1.	Pinder, J. P. (2022). *Introduction to business analytics using simulation* (2nd ed.). Academic Press.
2.	Paczkowski, W. R. (2024). *Hands-on prescriptive analytics: Optimizing your decision making with Python*. O'Reilly Media.
3.	Black, K. (2022). *Business statistics: For contemporary decision making* (11th ed.). Wiley.
4.	Gujarati, D. N., & Porter, D. C. (2009). Basic Econometrics [5th ed.]. McGraw-Hill
5.	Jaggia, S., & Kelly, A. (2025). *Business statistics: Communicating with numbers* (5th ed.). McGraw-Hill Education.
6.	Sharma, J. K. (2019). *Business statistics* (5th ed.). Vikas Publishing House.
Newspapers / Magazines / Journals:	
1.	News Paper: Business Standard, Economic Times, Times of India
2.	Journals: Journal of the American Statistical Association, International Statistical Review, Journal of Business & Economic Statistics, International Journal of Statistics and Analysis
Web resources:	
1.	https://jasp-stats.org
2.	https://www.jamovi.org
3.	https://www.gnu.org/software/pspp/
4.	https://statistics.laerd.com/