

Lecture Plan
Department of Planning, School of Planning and Architecture, Vijayawada

Name of Course: Planning Techniques and Quantitative Methods (MPIS104)

Programme & Sem: **Master of Planning (PG), Semester One**

Course Duration: July 10 to Nov 03, 2017

Course Coordinator: Shweta Sharma, Assistant Prof., Dept. of Planning
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Number of Credits: 03

Total Periods/Week: 03(See Time Table for details)

Internal Assessment: 50 (minimum pass marks 50%)

End Evaluation: 50 (minimum pass marks 50%) – Written Exam.

Total Marks: 100 (to be converted to CGPA credit pattern as per regulations)

Subject Objective: *To acquire proficiency in statistical techniques and able to conduct empirical studies employing statistical software.*

Week	Lecture / Session Topic (Teaching-Learning Objective aimed)	Session Mode (Optional)	References / Suggested Readings
Week 1 (starting August 01 -04)	Unit 1: Introduction to Statistical Methods Statistical data and methods; scale, variables; types of data, notion of a statistical population; notion of sample, Questionnaire design, sampling; methods of sampling; Classification, data coding and validation.	Lecture	1. Agresti, A. & Finlay, B. 'Statistical Methods for the Social Sciences. Prentice Hall. 2009. (BOOK) 2. Levin, J., Fox, J. A. and Forde, D. R. 'Elementary Statistics in Social Research'. Allyn& Bacon. 2010 (BOOK)
Week 2 (starting August 07 - 11)	Graphical presentation of statistical data, Frequency distribution; measures of central tendency: Arithmetic Mean (A.M.), Mode, Median; Partition values: Quartiles, Deciles and Percentiles; Measures of dispersion: Quartile deviation, mean, variance and standard deviation measures of dispersion for comparison.	Lecture	1. Kastellec, J. and Leoni, E. 'Using Graphs Instead of Tables in Political Science. In Perspectives on Politics Vol. 5(4). 2007. (ARTICLE) 2. Rochefort, D. A. 'Quantitative Methods in Practise'. CQ Press. 2006. (BOOK)
Week 3 (starting August 14-18)	Assessment – 1 (Aug 14-18): Time-bound Test		
Week 4 (starting August 21-25)	Unit 2: Probability, Sampling distributions and Testing of Hypothesis Introduction to probability; discrete random variables and probability distribution; Sampling distributions– T and F distribution.	Lecture	1. El-Taha, Muhammad. 'Introduction to Probability & Statistics'. Univ. of Southern Maine. 2003 (BOOK) 2. Jaynes, E. T. 'Probability Theory: The Logic of

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			Science'. Washington University.1996. (BOOK)
Week 5 (starting August 28-Sep01)	Tests of hypothesis; type I & II errors; one-tailed and two tailed tests; chi-square test, Student T test.	Lecture	1. Walck, C. 'Hand-book on Statistical Distributions for experimentalists'. University of Stockholm. 2007.(BOOK)
Week 6 (starting Sep 04)	Field Work		
Week 7 (starting Sep 11-15)	Unit 3: Correlation and Regression Concepts of correlation; calculations of correlation; concept of correlation between two variables; Scatter diagram; conclusion about the type of correlation from scatter diagram; covariance between two variables	Lecture	1. Cuzzort, P. &Vrettos, J. S. 'The Elementary Forms of Statistical Reason'. St. Martin's Press. 1996. (BOOK) 2. Rochefort, D. A. 'Quantitative Methods in Practise'. CQ Press. 2006. (BOOK)
Week 8 (starting Sep 18-22)	Assessment – 2 (Sept 18-22): Time-bound Test		
Week 9 (starting Sep 25-29)	Karl Pearson's coefficient of correlation (r); Spearman's rank correlation coefficient.	Lecture	1. Cuzzort, P. &Vrettos, J. S. 'The Elementary Forms of Statistical Reason'. St. Martin's Press. 1996. (BOOK) 2. Rochefort, D. A. 'Quantitative Methods in Practise'. CQ Press. 2006. (BOOK)
Week 10 (starting Oct 02-06)	Concepts of regression analysis; Calculations on regression analysis; Least square method	Lecture	1. Gupta, S. C. 'Fundamentals of statistics'. Himalaya Publishing. 2009.(BOOK) 2. Rochefort, D. A. 'Quantitative Methods in Practise'. CQ.2006.(BOOK)
Week 11 (starting Oct 09-13)	Unit 4: Application of vital statistics in Spatial Planning Elementary association models and decision making; Index Numbers,; Application of index number in spatial planning	Lecture	1. Gupta, S. C. 'Fundamentals of statistics'. Himalaya Publishing. 2009. (BOOK). 2. Hastie, T., Tibshirani, R. & Friedman, J. 'The Elements of Statistical Learning'. Springer. 2009. (BOOK)
Week 12 (starting Oct 16-20)	Demographic projection; calculation techniques of vital events	Lecture	
Week 13	Assessment – 3 (Oct 23-27):		

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(starting Oct 23-27)	Time bound Test		
Week 14 (starting Oct 30-Nov 03)	Unit 5: Demography Methods of demography and population studies – population projections, introduction to Census data and sample surveys.	Lecture	<ol style="list-style-type: none"> 1. Hoque, N. & Potter, L. B. 'Emerging Techniques in Applied Demography'. Springer. 2014. (BOOK) 2. Weinstein, J. & Pillai, V. K. 'Demography: The Science of Population'. Pearson Publication. 2000. (BOOK) 3. Yaukey, D. & Anderton, D. L. 'Demography: The Study of Human Population'. Waveland. 2001. (BOOK)
Nov 03	Finalisation of Internal Marks		

Note:

1. Any other closed holidays as declared by SPAV shall supercede the above lecture plan. Holidays shown above may alter as per Notice from time to time.
2. Assessment Sessions may be re-scheduled, with prior intimation.
3. Reading lists provided is not exhaustive and is subject to addition – students are advised to follow progression of class to keep abreast of the new reading lists, if any.