SECOND-YEAR OF MASTER OF ARTS MAJOR GEOGRAPHY REVISED SYLLABUS ACCORDING TO CBCS NEP2020

COURSE TITLE: COURSE TITLE: TOOLS AND TECHNIQUES IN SPATIAL ANALYSIS-I
SEMESTER-III, W.E.F. 2024-2025

RECOMMENDED BY THE BOARD OF STUDIES IN GEOGRAPHY
AND
APPROVED BY THE ACADEMIC COUNCIL

Devrukh Shikshan Prasarak Mandal's
Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh.
Tal.Sangmeshwar, Dist. Ratnagiri-415804, Maharashtra, India

Academic Council Item No: 03

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangmeshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Master of Arts
Name of the Department	:	Geography
Name of the Class	:	Second Year
Semester	:	Third
No. of Credits	:	02
Title of the Course	:	Tools and Techniques in Spatial Analysis - I
Course Code	:	A604GEP
Name of the Vertical in adherence to NEP 2020	:	Major
Eligibility for Admission	:	NA
Passing Marks	:	40%
Mode of Assessment	:	Summative
Level	:	PG
Pattern of Marks Distribution for TE and CIA	:	NA
Status	:	NEP-CBCS
To be implemented from the Academic Year	:	2024-2025
Ordinances/Regulations(if any)		

Syllabus for Second Year of Master of Arts in Geography

(With effect from the academic year 2023-2024)

SEMESTER-III **Paper No.–IV**

Course Title: Tools and Techniques in Spatial Analysis-III **No. of Credits - 02**

Type of Vertical: Major **COURSE CODE:** A504GEP

Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to…

Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	Remember	Fundamentals of SPSS and Advanced Statistical Analysis in SPSS.
CLO-02	Understand	Understand the basics of inferential statistics, time series analysis, correlation, regression, classification and forecasting in SPSS.
CLO-03	Apply	Apply the SPSS for the analysis of inferential statistics, time series analysis, correlation, regression, classification and forecasting.
CLO-04	Analyse	Analyze the inferential statistics, time series analysis, correlation, regression, classification and forecasting using SPSS.
CLO-05	Evaluate	Evaluate the results of inferential statistics, time series analysis, correlation, regression, classification and forecasting.
CLO-06	Create	--

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SEMESTER-III **Paper No.–IV**

Course Title: Tools and Techniques in Spatial Analysis-III **No. of Credits - 02**

Type of Vertical: Major **COURSE CODE:** A504GEP

1. **Inferential and Time Series Analysis in SPSS**
   1.1. **Inferential statistics**: Introduction; Hypothesis Testing - Chi-square test, T-test applications; Analysis of variance (ANOVA).
   1.2. **Time Series Analysis**- growth and decline- index numbers- logarithmic scale- trend line by least square method
2. **Correlation and Regression Analysis in SPSS**
   2.1. **Correlation:** Types of correlation; Methods of correlation- Spearman's rank correlation and Karl Pearson's coefficient of correlation; Partial Correlation.
   2.2. **Regression:** Introduction; Dependent and independent variables; scatter-gram- regression lines and residuals; construction of regression lines; least square method, Regression residuals: mapping and interpretation.
3. **Classification and Forecasting in SPSS**

   3.1. Classify: Two-Step Cluster, K-Means Cluster, Hierarchical Cluster, Tree, Nearest Neighbour Analysis

   3.2. Forecasting: Create Models, Apply Models, Seasonal Decomposition, Spectral Analysis, Sequence Charts, Autocorrelations, Cross-Correlations

Required Previous Knowledge

No previous Knowledge is necessary to learn the course.

Access to the Course

The course is available for all the students admitted for Master of Arts.

Methods of Assessment:

Vocational skill Courses, Skill Enhancement Courses and courses having laboratory sessions shall be assessed at the end of each semester.

Grading Scale

The grading scale used is O to F. Grade O is the highest passing grade on the grading scale, and grade F is a fail. The Board of Examinations of the college reserves the right to change the grading scale.

References:

1. Hilton, P. et.al (2012): SPSS Explained, Rutledge, London.
2. Berry, B.J.L. and Marble, D.F. (1968): Spatial Analysis A Reader in Statistical Geography, Prentice Hall, Englewood Cliffs, New Jersey.
3. Levin, J. (1973): Elementary Statistics in Social Research, Harper and Row, New York
4. Yeates, W.M.(1974): An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York.
5. Norcliff, G.B.(1982): Inferential Statistics for Geographers, Hutchinson, London.
6. Cressie, N.(1991): Statistics for Spatial Data, John Wiley and Sons, New York
7. Ganesh, A.(2006): GPS Principles and Applications, Satish Series Publishing Houses
8. Rogerson, P.A.(2010): (3rdEd,) Statistical Methods for Geography, a Student s Guide, Sage
9. www.wri.org
10. http://mpcb.gov.in
11. Gupta, V.(1999): SPSS for beginners, V.J.Books Inc.
12. IBM SPSS Statistics 19 Brief Guide
13. Cressie, N.(1991): Statistics for Spatial Data, John Wiley and Sons, New York
14. Clock P. et.al.(2004): Practising Human Geography, Sage
15. Mitra, A.(1961):Levels of Regional Development, Census of India 1961
16. Streeton, P. and Jolly, R.(Ed.)(1981): Recent Issues in Development, Pergamum Press, London
17. Kundu, A.(1975): Construction of Composite Indices for Regionalisation: An enquiry into the Methods of Analysis, Geographical Review of India, Vol. 37, No.1, March 1975
18. Moss, P.(ed.)(2002): Feminist Geography in Practice Research and Methods, Blackwell Publishers.