

Prerequisite status: -	Unit Type: Theoretical/practical	The number of units: 2	Rural Name of the lesson: Models and techniques of spatial planning
Type of additional practical training: Has it <input checked="" type="checkbox"/> does not have <input type="checkbox"/> science travel <input type="checkbox"/> Laboratory <input type="checkbox"/> Workshop <input checked="" type="checkbox"/> , Seminar <input type="checkbox"/>		The number of hours: 48	Expert professor to teach: Rural geographer specializing in modeling and quantitative techniques
Goals: Acquaintance with quantitative and spatial advanced models and techniques in the fields of geography and rural planning and their application in relevant research			
Headlines 1- Application of spatial planning models and techniques in geographical studies and analyzes and rural planning 2- Brief classification of all types of quantitative models and techniques and spatial planning in geography and rural planning 3- Application of multi-objective decision-making models in geographic studies and analysis 4- Application of multi-criteria decision-making models in geographic studies and analysis (introduction of at least three models based on needs assessment in class) - AHP - ANP - DEMATEL - ELECTERE - VIKOR - ... 5- Application of quantitative models of spatial planning and regional planning in rural planning studies - Geographically weighted regression - Spatial Cluster Analysis - Interpolation - Network Analysis 6- Prioritization strategies - The method of average ranks - Borda method			

- Copeland method

7- Application of fuzzy models in rural planning studies

8- Combining qualitative and mixed methods with quantitative models and techniques and spatial planning in geography and rural planning

9- Criticism and evaluation of quantitative models and techniques and spatial planning in geography and rural planning

Reference

1- Azar, Adel, and Rajabzadeh Ali (2010) applied decision making of MADM approach, Negah Danesh Publications

2- Asgharpour, Mohammad Javad (2018) Multi-criteria decision-making, Tehran University Press

3- Poortaheri Mehdi (2015) Application of multi-criteria decision-making methods in geography, Samt Publications

4- Joyzadeh Saeed, Sare Haddadi, Mohammad Sadegh Duraninejad, 2017, Spatial Statistics (Spatial Data Analysis), Publisher: Academic

5- Atai Mohammad (2010), Fuzzy Criterion Decision Making, Shahrood University Publications

6- Asgari Ali, 2011, Spatial statistics analysis with Arc GIS, Information and Communication Technology Organization of Tehran Municipality

7- Yunes Khosravi, Esmail Abbasi, 2016, spatial analysis of environmental data with geostatistics, publications: Kalk

8- Chris Brunsdon, Lex Comber (2019), An Introduction to R for Spatial Analysis and Mapping (Spatial Analytics and GIS) 2nd Edition, SAGE Publications Ltd

9- David Darmofal, 2015, Spatial Analysis for the Social Sciences (Analytical Methods for Social Research) Kindle Edition, Cambridge University Press

10- Manfred M. Fischer, 2006, Spatial Analysis and Geo Computation, springer

11- Richard E. Klosterman, Kerry Brooks, Joshua Drucker, Edward Feser, 2019, Planning Support Methods: Urban and Regional Analysis and Projection, Rowman & Littlefield Publishers

12- Briassoulis, Helen, Kavroudakis, Dimitris, Soulakellis, Nikolaos, 2019, The Practice of Spatial Analysis, springer