

Prerequisite status: -	Unit Type: One theoretical, one practical	The number of units: 2	Name of the lesson: Advanced statistical methods in climatology
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 checked="" type="checkbox"/>		The number of hours: 48	Expert professor to teach: climatologist
Goals: Acquaintance of students with advanced statistical methods that can be used in climatology data analysis			
Headlines 1- An overview of preliminary statistics and probabilities 2- The use of matrices in statistics 3- Variance analysis and spatial variance analysis using variogram and its features 4- Correlations, correlation with delay, and spatial autocorrelation 5- Multivariate statistical methods 6- Time series and their preliminary analysis 7- Deterministic, random (Markov chain), and chaotic prediction models 8- Compilation of location climate identification models 9- Application of programming in statistical climate analysis 10- Practical work and programming with statistical analysis software			
Reference 1- Asakareh, Hossein, 2011, Basics of Statistical Climatology, Zanzan University Publications 2- Khosravi, Mahmoud, 2017, Multivariate Climatology, Sistan and Baluchistan University Publications 3- Farajzadeh, Manouchehr, 2007 Climatology Techniques, Samt Publications 4- Storch, H, V; F, W, Zwirs, 2003, Statistical analysis in climate research. Cam bridge University Press, Cambridge. 5- Polyak, I, 1996, Computational Statistics in Climatology, Oxford University Press.			