

Prerequisite status: -	Unit Type: Theoretical	The number of units: 2	Name of the lesson: Specialized GIS programming
Type of additional practical training: Has it <input checked="" type="checkbox"/> does not have <input type="checkbox"/> Science travel <input type="checkbox"/> Laboratory <input checked="" type="checkbox"/> Workshop <input type="checkbox"/> Seminar <input type="checkbox"/>		The number of hours: 32	Expert professor to teach: RS & GIS
Goals: Familiarization of students with specialized methods, tools, and concepts of programming in GIS			
Headlines 1- Definitions, nature, principles, and specialized programming processes in GIS 2- Overview of concepts and specialized programming tools in GIS 3- Spatial components in specialized programming in GIS (Variables, classes, functions, and...) 4- Introducing an object-oriented programming language in GIS 5- Development of applications using an object-oriented programming language in GIS 6- Creating, implementing, and adding extensions (Add-ins) to existing GIS software to automatically run applications 7- Create a user interface to communicate with the spatial database 8- Designing, programming, and implementing a software development project using the basic software development stages			
Reference 1- Zandbergen Paul A., 2020, Advanced Python Scripting for ArcGIS Pro, Esri Press. 2- Burker R., 2004, getting started with ArcObjects, ESRI Redland, California 3- Chang K. T., 2008, programming ArcObjects with VBA, A task-oriented approach, CRC Press,			