

Prerequisite status: Principles and physics of remote sensing	Unit Type: Theoretical/practical	The number of units: 2	Name of the lesson: Advanced processing of satellite images
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: 48	Expert professor to teach: RS
Goals: Familiarizing students with advanced image processing, Carrying out all the steps of converting raw remote sensing data into desired information			
Headlines 1- Statistical image description 2- Algebraic operators on images 3- Geometric transformation of the image (resizing-resolution-rotation) 4- Revealing images in the spatial domain 5- Filtering in the spatial domain 6- Image conversions (PCA transform, Fourier transform, and wavelet) 7- Filtering in the frequency domain 8- Feature space and production of textural and structural features 9- Principles of classification (supervised and unsupervised principles) 10- Different pixel-based classification methods 11- Post-classification processes 12- Object-based and inferential classification methods 13- Sub-pixel classification method 14- Assessment of classification accuracy			
Reference 1- Alavi Panah, Seyyed Kazem, 2003, Application of Remote Sensing in Earth Sciences, Tehran University Press 2- Jenson, John R., 2015, Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice- Hall Publisher. 3- Gao J., 2009, digital analysis of remotely sensed imagery, Mc- Graw- Hill. 4- Gonzalez R.C. and Woods R. E., 2007, Digital image processing			