

Advanced Geoinformatics 2					
Course Code CSD60010	Student Workload 90 hours	Credits (according to ECTS) 4.5 (3 for theory and 1.5 for practical work)	Semester 5 or 7	Frequency each odd-semester	Duration 16 meetings
1	Types of courses Elective	contact hours 63 hours	independent study 27 hours	class size 20 - 40 students	
2	Prerequisites for participation -				
3	Learning outcomes IS-ILO-1 Graduates are expected to be able to design, build, operate, and evaluate information systems in organizations to align with organizational needs and to produce technological solutions for organizations. IS-ILO-3 Graduates can apply computational and design thinking, conduct scientific analysis and writing and apply the values of Technopreneurship in creating product innovations in the Systems or Information Technology domain.				
4	Subject aims <ul style="list-style-type: none"> • Students are able to understand the concept of Geoinformation System software development. • Students are able to understand the concept of Python-based geospatial analysis. • Students are able to understand the concept of GDAL/OGR. • Students are able to understand the Python Toolbox. • Students are able to understand the concept of GIS and Python systems. • Students are able to understand the concept of Remote Sensing and Python. • Students are able to understand the concept of DEM and Python. • Students are able to understand the concept of Python-based advanced geospatial modeling. • Students are able to understand the concept of the real-time dataset and their applications. • Students are able to understand the advanced geospatial analysis concepts using R. • Students are able to understand the concept of Machine Learning and the applications using R. • Students are able to understand the application PostgreSQL. • Students are able to understand the concept of GitHub. • Students are able to create a final project based on real problems and their documentation. 				
5	Teaching methods Lectures, case study, class discussion, presentation				

6	<p>Assessment methods</p> <p>Assignment, mid-term examination, end-term examination, project evaluation, practical-skill assessment</p>
7	<p>This module is used in the following degree programs as well</p>
8	<p>Responsibility for module</p>
9	<p>Other information</p> <ol style="list-style-type: none"> 1. Ramdani, Fatwa. 2017. Pengantar Ilmu Geoinformatika. UB Press. Malang 2. Ramdani, Fatwa. 2018. Ilmu Geoinformatika: Observasi Hingga Validasi. UB Press. Malang 3. Lawhead, Joel. 2013. Learning Geospatial Analysis with Python. Packt Publishing. Birmingham, UK