

Faculty Environmental and Mechanical Engineering  
STUDY CURRICULUM

Course: **Geoinformation and spatial management**

Subject/module	Number of ECTS credits	Number of hours						assesment <sup>3</sup>	Department/Institute
		Total (4+5+6+7+ 8)	teaching hours			contact hours	ESW <sup>2</sup>		
			lectures	pract. classes	others <sup>1</sup>				
1	2	3	4	5	6	7	8	9	11
semester 1									
student's choice course 1	6	160	15	35	0	35	75	EX	Institute of Land Improvement, Environmental Development and Geodesy
Principles of field spectroscopy Podstawy spektroskopii polowej	4	101	14	10	0	35	42	EX	Department of Meteorology
Municipal economy Gospodarka komunalna	4	100	30	15	0	15	40	GA	Faculty of Social and Economic Sciences
Modern techniques of visualization and inventory of technical infrastructure objects Nowoczesne techniki wizualizacji i inwentaryzacji obiektów infrastruktury technicznej	4	100	15	15	0	20	50	GA	Institute of Construction and Geoengineering
student's choice course 2	4	100	15	15	0	20	50	GA	Department of Hydraulic and Sanitary Engineering
Geoprocessing Geoprzetwarzanie	5	125	15	20	0	30	60	EX	Department of Hydraulic and Sanitary Engineering

total semester 1	27	686	104	110	0	155	317		
semester 2									
Passive Earth Observations: new platforms, sensors and approaches  Lotnicza teledetekcja hiperspektralna: nowe platformy, czujniki i podejście	6	166	26	45	0	25	70	EX	Department of Meteorology
Environmental economics and bioeconomics  Ekonomia środowiska i bioekonomia	4	104	14	15	0	25	50	EX	Faculty of Social and Economic Sciences
student's choice course 3	4	100	15	15	0	30	40	GA	Department of Soil Science and Land Reclamation
UAV mission practical exercise - part 1  Misja BSP – ćwiczenia praktyczne, część 1	2	50	0	0	8	17	25	GA	Institute of Land Improvement, Environmental Development and Geodesy
student's choice course 4	4	104	9	15	0	30	50	GA	Institute of Construction and Geoengineering
student's choice course 5	4	100	15	15	0	20	50	GA	Department of Hydraulic and Sanitary Engineering
Seminars  Seminarium	4	105	10	0	0	35	60	GA	Department of Meteorology
total semester 2	28	729	89	105	8	182	345		
semester 3									
student's choice course 6	3	75	15	15	0	20	25	GA	Institute of Construction and Geoengineering

Landscape geochemistry Geochemia krajobrazu	4	100	15	15	0	25	45	EX	Department of Soil Science and Land Reclamation
ESA & NASA Earth Observation missions, platforms and databases Misje obserwacji Ziemi ESA i NASA, platformy i bazy danych	4	100	20	0	0	30	50	EX	Department of Meteorology
Application of Geo-informatics to natural hazards to mapping and monitoring Zastosowanie geoinformacji do mapowania i monitoringu zagrożeń naturalnych	6	150	20	40	0	20	70	EX	Department of Meteorology
student's choice course 7	3	75	15	15	0	15	30	GA	Department of Ecology and
student's choice course 8	3	75	15	15	0	15	30	GA	Department of Meteorology
Seminars Seminarium	5	125	0	25	0	45	55	GA	Department of Meteorology
total semester 3	28	700	100	125	0	170	305		
semester 4									
student's choice course 9	4	113	15	18	0	35	45	EX	Department of Ecology and Environmental protection
UAV mission practical exercise - part 2 Misja BSP – ćwiczenia praktyczne, część	2	50	0	0	7	18	25	GA	Institute of Land Improvement, Environmental Development and Geodesy
student's choice course 10	3	80	15	15	0	15	35	GA	Department of Ecology and Environmental protection

Spatial planning of functional areas Planowanie przestrzenne na obszarach funkcjonalnych	3	90	15	15	0	30	30	EX	Institute of Land Improvement, Environmental Development and Geodesy
Seminars	5	130	0	25	0	45	60	GA	Department of Meteorology
total semester 4	17	463	45	73	7	143	195		
Master thesis Praca magisterska	20	500	0	0	0	150	350	assessed by Faculty office	
total semester 1-4	120	3078	338	413	15	800	1512		

1 any activities other than conversatory, laboratory or design classes (e.g. site visits, case study visits, excursions and others)

2 EX - examination ; GA - graded assignment

3 ESW - estimated number of student work hours

#### Student's choice courses

Course 1	Remote sensing of agricultural and forestry land Teledetekcja obszarów rolnych i leśnych
	Application of remote sensing in environmental studies Zastosowania teledetekcji w badaniach środowiska przyrodniczego
Course 2	Flood risk management Zarządzanie ryzykiem powodziowym
	Flood Hazard Mapping Tworzenie Map Zagrożenia Powodziowego

Course 3	Introduction to geostatistics
	Wprowadzenie do geostatystyki
	Introduction to Pedometrics
	Wprowadzenie do pedometrii
Course 4	Town planning
	Projektowanie urbanistyczne
	Planning of semi-urban areas
	Planowanie obszarów półmiejskich
Course 5	Communal or urban engineering and management
	Planowanie i zarządzanie infrastrukturą techniczną
	Planning communal infrastructure
	Planowanie infrastruktury technicznej <b>miast</b>
Course 6	Rural engineering
	Inżynieria rolnicza
	Homestead Engineering
	<b>Wiejskie budownictwo jednorodzinne</b>
Course 7	Ecology of urban areas
	Ekologia terenów zurbanizowanych
	Natural environment of cities
	Środowisko przyrodnicze miast

Course 8	Climatic and spatial determinants of development of renewable energy sources Klimatyczne i przestrzenne uwarunkowania źródeł energii odnawialnej w krajobrazie
	Climate change impact on local water balances Wpływ zmian klimatu na lokalne bilanse wodne
Course 9	Sustainable development and environmental management Zrównoważony rozwój i zarządzanie środowiskiem
	Environmental impact assessment Ocena oddziaływania na środowisko
Course 10	Modelling of natural processes Modelowanie procesów przyrodniczych
	Monitoring of natural resources Monitoring zasobów przyrody