

PLAN OF SECOND DEGREE FULL TIME SECOND - DEGREE STUDIES OF A GENERAL ACADEMIC PROFILE
DISCIPLINE (MAIN): CIVIL ENGINEERING, GEODESY AND TRANSPORT
MAJOR: GEODESY AND GEOINFORMATICS

GROUPS OF COURSES / COURSES		hours/ECTS		ECTS / practical skills	ECTS / academic skills	ECTS share NA	including no. of hours of:					No. of hours/regimen/ECTS points per semester						Organisational unit responsible for the course	Remarks	
		godz.	ECTS				lectures	classes	lab.	project	seminar	I		II		III				
												hours	ECTS	hours	ECTS	hours	ECTS			
A. General educational content		64	5,0		2,0	2,0	24	30	0	0	10	64	5,0	0	0,0	0	0,0			
1.	Introduction to national defence	30	3,0		1,0	1,0	20				10	30	+	3,0					WIG	
2.	Foreign language	30	2,0		1,0	1,0		30				30		2,0					SJO	
3.	Occupational health and safety	4	0,0		0,0	0,0	4					4	+						BHP	
B. Basic educational content		98	7,0		3,0	3,5	36	30	32	0	0	98	7,0	0	0,0	0	0,0			
1.	Mathematics	30	3,0		1,0	1,0	14	16				30	+	3,0					WCY	
2.	Physical geodesy and geodesic gravimetry	38	2,0		1,0	1,5	12	14	12			38	x	2,0					WIG	
3.	Geodata processing algorithms	30	2,0		1,0	1,0	10		20			30	x	2,0						
C. Major-related content		254	14,0		9,0	9,5	72	16	88	68	10	254	14,0	0	0,0	0	0,0			
1.	Satellite measurement techniques	50	3,0		2,0	2,0	12		22	16		50	#x	3,0						
2.	Programming in Python – advanced level	40	2,0		1,5	1,5	12		12	16		40	#x	2,0						
3.	Reference systems in geodesy	38	2,0		1,5	1,5	12	16			10	38	+	2,0						
4.	Advanced photogrammetric studies	42	2,0		1,5	1,5	12		18	12		42	#x	2,0						
5.	Designing geographic information systems	42	2,0		1,5	1,5	12		18	12		42	#x	2,0						
6.	Publication of spatial data	42	3,0		1,0	1,5	12		18	12		42	#x	3,0						
D. Elective content		504	36,0		20,5	23,5	96	18	180	180	30	0	0,0	356	28,0	148	8,0			
1.	Diagnostic measurement of objects	50	4,0		1,5	2,0	12	18						50	#x	4,0				
2.	Advanced methods of processing observations	64	5,0		1,0	2,5	12		28	24				64	#x	5,0				
3.	Advanced satellite observation techniques	64	5,0		1,5	2,5	12		28	24				64	#x	5,0				
4.	Terrestrial and low-altitude scanning	64	5,0		1,5	2,5	12		22	20	10			64	#x	5,0				
5.	Mobile measurement systems	64	5,0		1,5	2,5	12		28	24				64	#x	5,0				
6.	Legal conditions for geodesic surveys	64	5,0		1,5	2,5	12		22	20	10			64	#x	5,0				
7.	Automation of geodesic surveys	64	5,0		1,5	2,5	12		28	24				64	#x	5,0				
8.	Automation of geoprocessing systems	64	5,0		1,5	2,5	12		28	24				64	#x	5,0				
9.	Geostatistics	64	5,0		1,5	2,5	12		28	24				64	#x	5,0				
10.	Cadastral information systems	64	5,0		1,5	2,5	12		28	24				64	#x	5,0				
11.	Artificial Intelligence and machine learning in processing geodata	64	5,0		1,5	2,5	12		28	24				64	#x	5,0				
12.	Deep neural networks in the analysis of geodata	64	5,0		1,5	2,5	12		28	24				64	#x	5,0				
13.	Photogrammetry in engineering	50	4,0		1,5	2,0	12		18	20				50	#x	4,0				
14.	Global geodesic networks	64	5,0		1,5	2,5	12		28	24				64	#x	5,0				
15.	3D and BIM modelling	74	4,0		1,5	2,5	12		28	24	10					74	#x	4,0		
16.	Automated editing of maps and analyses	74	4,0		1,5	2,5	12		28	24	10					74	#x	4,0		
17.	3D printing in geodesy and cartography	74	4,0		1,5	2,5	12		28	24	10					74	#x	4,0		
18.	Virtual and augmented reality in geodesy	74	4,0		1,5	2,5	12		28	24	10					74	#x	4,0		
19.	Programming applications for geodata	74	4,0		1,5	2,5	12		28	24	10					74	#x	4,0		
E. Diploma dissertation		60	24,0		20,0	5,0	0	0	0	30	0	0,0	30	2,0	30	22,0				
1.	Diploma seminar	60	4,0		1,0	2,0					30			30	+	2,0	30	+	2,0	
2.	Dissertation		20,0		19,0	3,0										x	20,0			
F. Internships		160	4,0		1,0	2,0	Period after semester 1					160	4,0							
1.	Internships	160	4,0		1,0	2,0						160	4,0							
Total hours/ECTS points		1140	90,0		58,5	45,5	228	94	300	248	80	576	30,0	386	30,0	178	30,0			
acceptable deficit of ECTS points												12	12	0						
Types and number of realizations in a semester:												examination -x	7	min	6	min	3			
												final test - +	4		1		1			
												project - #	5	min	6	min	3			

Plan of studies adopted by Senat WAT on the June 26, 2025

Semesters 2-3 - education based on elective courses

The student selects the courses from the Elective courses group - it is required to receive a minimum of 30 ECTS points per semester.