

Faculty of Environmental Engineering, Geomatics and Power
Engineering

Field of study: **Surveying and Cartography**

First-cycle part-time programme.

Available from the academic year 2017/2018

l – lectures, c – classes, p – project work, lab – laboratory classes, E – examination

Semester 1							
Module Code	Module Title	Σ	l	c	lab	p	ECTS credits
	Mathematics 1	36	18E	18	-	-	6
	Physics 1	27	18	9	-	-	4
	Geomatics	36	18E	9	-	9	6
	Fundamentals of Geotechnics and Geology	18	9	-	9	-	2
	Surveying Engineering 1	27	18E	9	-	-	3
	Fundamentals of Earth Sciences	18	9	9		-	2
	Descriptive Geometry and CAD Computer Graphics	27	9	-	18	-	3
	The Fundamentals of Computer Science	18	9	-	9	-	2
	H-E-S module (Economics or European Civilization History)	18	18	-	-	-	2
	Total	225	126	54	36	9	30

Semester 2

Module Code	Module Title	Σ	w	ć w	l	p	ECTS credits
	Mathematics 2	36	18E	18	-	-	5
	Physics 2	27	18E	-	9	-	5
	Surveying Computations	27	-	-	27	-	3
	Surveying 2 (including practice in the field)	27+18	9E	-	18+18	-	5
	Fundamentals of Metrology	18	9	9	-	-	2
	Measurement Techniques in Surveying	18	9	-	9	-	2
	Introduction to Environmental Engineering	18	9	9	-	-	2
	Civil Engineering	27	18	-	-	9	3
	Foreign Language 1	18	-	-	18	-	2
	H-E-S module	9	9	-	-	-	1
	Protection of Intellectual Property	3	3	-	-	-	-
	Principles of Standardization	6	6	-	-	-	-
	Total	234+18	108	36	81+18	9	30

	Elective H-E-S modules	I	ECTS
	Ergonomics and Occupational Health and Safety	9	1
	Protection of Intellectual Property	9	1
	History of Science and Engineering	9	1
	Fundamentals of Economics	9	1
	Fundamentals of Law	9	1

Semester 3

Module Code	Module Title	∑	I	c	lab	p	ECTS credits
	Applied Mathematics in Geomatics	18	9E	9			2
	Applied Physics in Geomatics	18	9	9			2
	Surveying 3	36	18E		18		5
	Principles of Adjustment Calculus and Surveying Calculations	27	9E	18			5
	Principles of Photogrammetry	27	9		9	9	4
	Geographic Information Systems GIS	18	9		9		3
	Computer Programming	27	9		18		4
	Types of Buildings and Engineering Structures (Overview)	18	9	9			2
	Terrain Transformations and Protection	9	9				1
	Foreign Language 2	18			18		2
	PE*	18			18		1
	Total	234	90	45	90	9	30/31*

* ECTS credits for PE classes – above minimum score necessary to obtain the diploma

Semester 4

Module Code	Module Title	∑	I	c	lab	p	ECTS credits
	Adjustment Calculus and Statistical Models in Geomatics/ Statistical Methods of Surveying Results Analysis*)	36	18E	18			5
	Remote Sensing and Photointerpretation	27	18		9		4

	Introduction to Cadastre and Real Estate Management	18	9	9			3
	Cartography and Thematic Visualizations	27	9		18		4
	Surveying 4 (including practice in the field)	27+18	9E		18+18		5
	Transport and Water Infrastructure Constructions	18	9	9			2
	Surveying for Constructing	18	9	9			2
	Fundamentals of Law	18	18				2
	English Language 3	18			18		2
	PE*	18			18		1
	History of technology and inventions	9	9				1
	Total	234+18	108	45	81+18	0	30/31*

* ECTS credits for PE classes – above minimum score necessary to obtain the diploma

*) elective (one module to be chosen)

Semester 5

Module Code	Module Title	Σ	l	c	lab	p	ECTS credits
	Positioning and Navigation Systems	27	9E		18		4
	Surveying for Constructing (2*)	36	18E		18		6
	Environment Protection	18	18				2
	Photogrammetry Applications/ Terrestrial, Air and Satellite Photogrammetry *)	36	18E		9	9	6
	Geodesy and Geodetical Astronomy	27	18E	9			4
	Surveying and Real Estate Management Law	18	18				2
	Spatial and Local Planning	18	18				2
	Elective Specialist Module	9	9				1
	Protection of Intellectual Property	9	9				1
	English Language 4	18E			18		2
	Total	216	135	9	63	9	30

*) elective modules

Elective specialist modules in semester 5		L	ECTS
	Construction-Site Surveys and Setting Out	9	1
	Structural Mechanics	9	1
	<i>Land Properties Cadastral Surveys</i>	9	1

Semester 6

Module Code	Module Title	Σ	l	c	lab	p	ECTS credits
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	Property Management	36	18E	18			5
	Property Valuation and Fiscal Cadastre/ Fundamentals of Property Value Estimation*)	36	18E		9	9	5
	Land Information Systems	36	18		18		5
	Remote Sensing in Economy, Thematic Maps/ Photointerpretation of Aerial and Satellite Images *)	36	18E		9	9	6
	Structure's Geometry Monitoring	18	9		9		3
	Elective Field-of-Study Module conducted in Polish	27	9		9	9	5
	Elective specialist module	9	9				1
	Total	198	99	18	54	27	30

*) elective modules

Elective specialist modules in semester 6		I	ECTS
	Principles of Mining and Tunnel Surveying	9	1
	Construction-Site and As-Built Surveys of Power Routes, Communication Lines and Media	9	1

Elective Field-of-Study Modules conducted in Polish in semester 6		W	ECTS
	Geomatics and Vocabulary	27	5
	Fundamentals of Photogrammetry	27	5

Semester 7

Module Code	Module title	Σ	I	c	lab	p	ECTS credits
	Geomatics in Environmental Engineering / Surveying for Monitoring of Environment	18	18				3
	Databases in Geomatics	27	9		9	9	2
	Property Sales and Management / Properties Management *)	27	9		18		2
	Diploma Seminar	18				18	3
	Diploma Thesis	108					15
	Elective Specialist Module	9	9				1
	Internship (4 weeks)	-	-	-	-	-	4
	Total	99+108	45	0	27	27	30

*) elective modules

Elective specialist modules in semester 7		L	ECTS
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	Displacements and Deformations of Selected Buildings and Structures – Observations and Analysis	9	1
	Urban Surveying	9	1

