



Lodz University
of Technology

Study programme

Faculty:	Faculty of Civil Engineering, Architecture and Environmental Engineering
Major:	Urban Planning
Level of study:	first-cycle programme (inżynier)
Form of study:	full-time studies
Academic year:	2026/27

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Basic information

Name of the field of study:	Urban Planning
Level of study:	first-cycle programme (inżynier)
Study profile:	general academic
Form of studies:	full-time studies
Duration of studies (number of semesters):	7
The number of ECTS points required to complete studies:	210
Total number of hours of classes:	2645
The number of ECTS points a student obtains as part of classes conducted with the direct participation of academic teachers or other persons conducting classes:	106
Professional title awarded to graduates:	inżynier
ISCED code:	0731
Language of study:	polish

Assigning the course to the disciplines to which the learning outcomes relate

Discipline	Percentage share
Civil engineering and transport	58%
Architecture and Urban Planning	42%

Learning outcomes (in relation to the PQF)

No.	Learning outcome code	Learning Outcome Content	Reference to the universal characteristics of the first level of PRK	Reference to the second-level characteristics of the PRK, taking into account the second-level characteristics enabling the acquisition of engineering competences
1	1PLP1	Possesses advanced knowledge of the theory of architecture, urban planning, civil engineering, environmental engineering, and basic sciences, essential from an engineering perspective for explaining complex phenomena, processes, and principles of conduct in spatial planning.	P6U_W	P6S_WG
2	1PLP10	Is ready to critically evaluate possessed knowledge and received content, recognize the importance of knowledge in solving cognitive and practical problems, and seek expert opinion in case of difficulties with solving problems independently.	P6U_K	P6S_KK
3	1PLP2	Demonstrates knowledge and understanding of the issues related to architecture, urban planning, civil engineering, and environmental engineering relevant to spatial planning, within the context of social, cultural, natural, historical, economic, legal, and other non-technical engineering determinants.	P6U_W, P6U_U	P6S_WK, P6S_UW, P6S_UW_inż
4	1PLP3	Knows and understands the basic processes occurring in the life cycle of devices, technical objects, and systems, as well as concepts and principles regarding industrial property protection and copyright law, and the basic principles of creating and developing various forms of entrepreneurship.	P6U_W, P6U_U	P6S_WK, P6S_WG_inż, P6S_WK_inż, P6S_UW_inż
5	1PLP4	Is able to communicate using specialized terminology in Polish and a foreign language at the B2 level. Participates in debates - presents and evaluates different opinions and positions, and is able to discuss about them, plan and organize both individual and team work.	P6U_U	P6S_UK, P6S_UO
6	1PLP5	Is able to develop design solutions of increasing complexity using engineering, urban and architectural, socio-economic, and natural knowledge, as well as plan and conduct appropriate experiments, including measurements, simulations, data analysis, and interpretation, and use engineering assessment to draw conclusions.	P6U_U	P6S_UW, P6S_UW_inż
7	1PLP6	Identifies, formulates, and solves complex engineering problems, conducts a critical assessment of undertaken activities and evaluates their consequences, and estimates their economic basis.	P6U_U, P6U_K	P6S_UW, P6S_KK, P6S_KO
8	1PLP7	Is prepared to supplement and improve acquired knowledge and skills and adapt to the changing needs of the labor market.	P6U_U, P6U_K	P6S_UU, P6S_KO, P6S_UW_inż
9	1PLP8	Designs new or adapts existing methods and tools, including available information technologies, for the execution of professional tasks.	P6U_U, P6U_K	P6S_UW, P6S_KK
10	1PLP9	Is able to demonstrate an entrepreneurial attitude and initiate actions in the public interest, as well as adhere to the principles of professional ethics.	P6U_U, P6U_K	P6S_UO, P6S_KR

Matrix of course modules in relation to learning outcomes and curriculum content

No.	Course name	Program content	1PLP1	1PLP10	1PLP2	1PLP3	1PLP4	1PLP5	1PLP6	1PLP7	1PLP8	1PLP9
1	Mathematics I	Complex numbers. Sequences and series. Differential calculus of functions of one variable. Integral calculus of functions of one variable. Matrices. Systems of linear equations. Selected elements of analytic geometry.	x						x			
2	Physics	Analysis of the fundamental laws of classical mechanics, thermodynamics, and hydrodynamics in the context of modeling physical phenomena. Practical understanding of the properties of mechanical and electromagnetic waves, elements of atomic physics, and cosmological models, integrating the mathematical description of phenomena with their application in technology and engineering.	x						x			
3	Kompozycja urbanistyczna	A study of the shaping of spatial order and urban aesthetics on the basis of the theory of perception and classical urban systematics (e.g. Wejchert and Lynch). Practical study of the design of coherent urban complexes, combining engineering skills with sensitivity to form, scale and spatial composition.	x		x			x				
4	Descriptive Geometry	Mapping elements of space in gauge projection, axonometry, and Monge projections. Solving problems in stereometry based on learned mapping methods. Solving engineering problems using descriptive geometry methods.	x						x			
5	Information Technologies I	Developing skills in using a computer, the Windows environment, and the Office suite. Learning the principles of network security. Using AI agents as a source of information and supporting the creation of text and graphic content.	x						x			
6	Engineering Drawing	The principles of executing, describing and dimensioning technical drawings, graphic symbols. Creating and editing objects, hatching, describing and dimensioning using computer-aided design (CAD) software. Reading data from drawings.							x		x	
7	Social Aspects of Spacial Planning	Analysis of the core tenets of sociology and social psychology, including perception and key research techniques, focusing on spatial and urban concepts. Practical examination of contemporary urban functioning, municipal policies, and quality of life, integrating the understanding of spatial conflicts with the application of sociological research methods in planning.			x						x	x
8	Mathematics II	Random variables. Elements of descriptive statistics. Correlation and linear regression. Interval estimation and statistical hypothesis testing. Elements of interest theory. Annuities. The concept of debt and methods of its repayment. Selected issues in the valuation of securities.	x						x			
9	Information Technologies II	Introduction to algorithms. Basics of Python 3. Working with AI tools in creating and debugging program code.	x						x			
10	Geomatics	Methods of acquiring information about the terrain; development of large-scale digital maps and methods of their use; acquisition of information from available digital sources; preparation of thematic maps and analyses in QGIS; preparation of studies for planning, economic, and design purposes.	x					x			x	

No.	Course name	Program content	1PLP1	1PLP10	1PLP2	1PLP3	1PLP4	1PLP5	1PLP6	1PLP7	1PLP8	1PLP9
11	History of Town- Planning	History of Urban Development – A comprehensive study of the development of European and global urban planning from antiquity to postmodernism, covering the evolution of spatial layouts and key theoretical ideas. Practical learning of professional architectural and urban planning language, integrating the analysis of historical transformations of Polish cities with the ability to consciously use references in contemporary design.	x		x						x	
12	Single - Family Housing Designe	A comprehensive study of the design of contemporary single-family housing complexes, integrating architectural and urban planning aspects with legal and environmental requirements. Practical design of coherent, functional human-scale housing estates, with emphasis on spatial order and innovative environmental solutions.	x		x			x				
13	Urban Planning Drawing	Basic operation of Geographic Information Systems (GIS). Processing and analysis of spatial data. Digitisation and georeferencing of archival materials. Preparation of thematic maps and planning drawings using symbology compliant with technical and legal requirements. Export of outputs to publication-ready formats.		x				x			x	
14	English B2 module I	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
15	English B2+ module I	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
16	German B2 module I	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
17	English C1 module I	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
18	Photography Methods for Inventory	Handling and usage of modern digital cameras, lenses and accessories, knowledge what particular equipment is needed for a specific photographic task, practical shooting of images in various fields, that are useful for applications on urban and spatial planning		x							x	
19	Art. And Presentation Methods	Presentation and application of simple graphic techniques, transforming flat compositional schemes into spatial layouts, basic principles of composition in relation to general planning assumptions		x							x	
20	Ecophysiography	Thematic studies, taking into account the characteristics of the condition and functioning of the environment, as well as landscape aspects. Studies characterizing natural elements for the purposes of preparing general plans and comprehensive investment plans.	x		x			x			x	
21	Construction Technology	Types of building materials, their characteristics and physical properties, building structural elements, structural systems, load collection, maintenance of buildings, periodic inspections, technical wear and tear of buildings.	x						x			
22	Sustainable Development of the Built Environment	Social, economic and environmental aspects of sustainable development in planning and construction. Environmental problems of contemporary cities (urban heat island, urban flooding, air and noise pollution). Sustainable and climate - resistant cities.	x		x		x					

No.	Course name	Program content	1PLP1	1PLP10	1PLP2	1PLP3	1PLP4	1PLP5	1PLP6	1PLP7	1PLP8	1PLP9
23	Multi - Family Housing Designe	A concept for a multi-family housing complex, taking into account the diagnosis of local conditions, including: spatial and functional composition, preservation of cultural heritage, strengthening the efficiency of green infrastructure, and assumptions of local planning documents. The designs include proposals for inclusive common spaces and identify solutions for adapting cities to climate change.	x					x				
24	Freehand Drawing	Drawing from nature - principles of measuring the view of still life objects, linear perspective of polyhedral and rotary objects, chiaroscuro, illusion of depth, theory and practice of creating flat and spatial compositions on the drawing plane, drawing from imagination spatial compositions of an architectural and urban nature.									x	
25	English B2 module II	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
26	English B2+ module II	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
27	German B2 module II	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
28	English C1 module II	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
29	CAD in Urban Planning Practice	Transitioning from precise 2D drafting to 3D modelling. Creating spatial urban models using solids, surfaces and meshes. Fundamentals of rendering (including materials, textures and lighting). Producing visualisations and animations of urban scenes. CAD-GIS interoperability: importing/exporting data between formats while preserving georeferencing and attributes.						x			x	
30	Computer- Aided Technical Drawing	Computer-aided design (CAD) software—2D and 3D drawing, model space, paper space, describing and dimensioning drawings at various scales in model space and paper space, viewports, drawing printouts.						x			x	
31	Vernacular and Regional Building Technology	A study of the evolution of spatial forms and construction systems of traditional rural buildings in Poland from a historical and geographical perspective. Practical training in recognising regional building structures, integrating care for cultural identity with the process of formulating guidelines and building conditions in planning documents.	x		x						x	
32	Protection and Conservation of Monuments	Heritage Protection and Conservation - Conservation doctrines and legal aspects of monument care in the spatial planning process. Practical knowledge of methods for the valorisation and protection of historic building complexes, integrating the principles of creating protection zones and cultural parks with the requirements for preserving contemporary cultural assets in the city structure.	x		x						x	
33	Solid Waste Management	Basic issues of waste management systems and their planning, with particular emphasis on legal regulations, municipal responsibilities, and social and environmental aspects. Methods of waste recovery (organic recycling) and disposal (landfills, thermal treatment).	x						x		x	
34	City Development Strategy	Analysis of integrated planning issues, combining socio-economic programming with spatial planning to create rationally organized and economically equitable spaces. Practical training in creating alternative development models and the final functional-spatial structure of the municipality, based on multi-faceted demographic, social, and structural research.	x		x			x				

No.	Course name	Program content	1PLP1	1PLP10	1PLP2	1PLP3	1PLP4	1PLP5	1PLP6	1PLP7	1PLP8	1PLP9
35	Urban planning Doctrines	The contemporary doctrine of urbanism and its constituent elements, and their evolution from the industrial city and modernism to the contemporary resilient city — a cross-sectional review of concepts and planning methods, with consideration of their origins and applied approaches. Social participation in urban planning in the theory and practice of design, revitalisation, and spatial planning.	x		x		x					x
36	Selected Aspects of Building Physics	Fundamental issues of Thermal Building Physics and Building Lighting. Heat conduction in building materials. Building heat balance. Fundamentals of moisture exchange in building. Solar energy and its application in a building. Indoor microclimate. Human heat balance. Trends in a contemporary energy efficient and sustainable building. Basics of Life Cycle. Calculation of the carbon foot print based on the LEVEL(s).	x		x	x		x				
37	English B2 module III	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
38	English B2+ module III	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
39	German B2 module III	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
40	English C1 module III	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
41	Low-Energy Constructions	Theoretical requirements for energy-efficient and passive buildings, including the analysis of the influence of architectural concept, material solutions, and installations on energy consumption. Practical training in calculating building energy demand and forecasting the use of renewable energy sources (RES) using advanced software, integrating engineering knowledge with the elimination of thermal bridges and the analysis of environmental impact.	x		x	x		x				
42	Energy Management in Cities and Regions	Optimizing the production and consumption of electricity and heat. Increasing the energy efficiency of heating, ventilation, and air conditioning systems in buildings, taking into account the type of building and land use.	x		x	x		x				
43	Modern Methods of Inventory and Data Processing	Modern technologies for spatial data acquisition (including photogrammetry and laser scanning). Data processing and integration (structuring data from multiple sources, working with point clouds, creating and using 3D urban models) Urban analysis (urban indicators, incorporating heritage and nature protection constraints). Spatial evaluation and preparation of design guidelines based on the collected analyses.						x			x	
44	Geoinformation in Planning	Modeling processes and phenomena in urban areas. Using computer-aided tools (desktop and mobile applications, digital platform resources).						x			x	
45	Land Surveying for Real Estate	Tasks of a surveyor in real estate services; subdivision and expropriation of real property; restoration of boundary markers; determination of property boundaries; non-standard geodetic surveys; work with large-scale and topographic maps; land consolidation and subdivision; land consolidation and exchange.	x					x			x	
46	Applications of Land Surveying and Cartography	Methods of field geodetic surveying; geodetic measurements in the field; development of large-scale digital maps for design purposes; methods of acquiring missing data about the terrain, e.g. information on underground utilities.	x					x			x	

No.	Course name	Program content	1PLP1	1PLP10	1PLP2	1PLP3	1PLP4	1PLP5	1PLP6	1PLP7	1PLP8	1PLP9
47	Transportation Systems Planning	Basic issues of transport systems and their planning, with particular emphasis on road and street systems, public transport and personal transport	x		x			x				
48	Utility Infrastructure Planning - Water Supply and Sewage Systems	Basic elements of water supply and sewage networks. Planning water demand and wastewater discharge volumes. Point and linear water supply infrastructure facilities. Materials used in water and sewage infrastructure. Fundamentals of selecting and planning water supply and sewage infrastructure solutions. Metering water consumption and wastewater discharge volumes. Sustainable development of water supply and sewage networks.	x		x			x				
49	Utility Infrastructure Planning - Heating and Gas Networks	Role and importance of district heating and gas systems within municipal infrastructure. Legal foundations, standards, and technical requirements for the design, construction, and operation of these networks. Characteristics of heating networks, including system types, technical parameters, heat sources, and methods for calculating losses and energy balances.	x		x			x				
50	Geoprocessing in Planning	Use of selected GIS tools (including open-source ones) in planning processes in urban areas. Integrating spatial and descriptive data, required by the new law, for the preparation of planning documents (general plans, integrated investment plans).						x			x	
51	Master Plan	Analysis of the substantive scope of the municipal planning act, focusing on the creation of a functional zone model supplemented with land use parameters and ratios. Practical training in using geoinformation systems (GIS), integrating developed municipal development alternatives with current legal standards for preparing planning documentation.	x		x			x				
52	Local Government	The contemporary legal and economic determinants of local government functioning in Poland, with particular emphasis on its role in the spatial planning system. Practical understanding of local management mechanisms and the significance of resident participation in decision-making processes and shaping municipal spatial policy.			x		x					x
53	Interdisciplinary Team Project - PBL	The concept of solving a specific design task within the disciplines assigned to the field of study and related disciplines. A group of students develops a concept solution to a specific project task. Team members collect the necessary data and information, present their ideas and consider their relevance and efficiency, and choose the best solution in their opinion. They prepare the detailed documentation of this design solution. The team presents the results of their work in the form of a multimedia presentation, which summarises the results of analyses and research carried out during the project.		x			x	x	x	x	x	
54	English B2 module IV	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
55	English B2+ module IV	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
56	German B2 module IV	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					
57	English C1 module IV	Depending on the chosen language and in accordance with the details of the curriculum.		x			x					

No.	Course name	Program content	1PLP1	1PLP10	1PLP2	1PLP3	1PLP4	1PLP5	1PLP6	1PLP7	1PLP8	1PLP9
58	Local Law - Acts	Principles for drafting planning provisions in the form of local law, taking into account the interdisciplinary nature of spatial planning issues. Forms of recording issues shaping spatial order, with particular emphasis on the principles of proportionality in urban planning.	x		x			x				
59	Real Estate Management	The concept of real estate; real estate data obtained from various sources; EGiB and land and mortgage registers (KW) as available public registers; types of rights to real estate; professional real estate management; real estate market services; acquisition of real estate market data; property description.	x	x							x	
60	Urban Acupuncture	A strategy of punctuated urban interventions integrating design workshop with advanced legislative knowledge of new planning procedures. Practical implementation of complementary projects (seals) that treat legal constraints as a creative framework to harmonise the context and catalyse the repair of the urban structure.	x		x			x				
61	Summative Module	The student works on a group project requiring knowledge and skills gained during their studies.					x	x		x	x	
62	Geographic Spatial Information Systems	Databases and database structure for natural and anthropogenic environmental components. The use of spatial and descriptive information in modeling processes and phenomena in spatial planning. Visualization of thematic study results in 2D and 3D.		x							x	
63	Project Management Basics. Communication and Negotiation	Fundamentals of project management. Communication and interpersonal interactions of a communicative-decision-making as well as relational-negotiation nature.		x		x	x					
64	Project Management Basics. Communication and Self-Presentation	Fundamentals of project management. Communication, image building and social influence, including elements of self-presentation.		x		x	x					
65	Rehabilitation of Degradated Urban Blocks - Large Cities	An interdisciplinary study of urban renewal of the metropolitan structure in a large city, combining historical-morphological analysis with the ethics of protecting the cultural landscape and place identity. Practical design for the rehabilitation of degraded urban quarters, aiming at the restoration of spatial order through the harmonious integration of the historical fabric with new functions.	x		x			x				x
66	Rehabilitation of Degradated Urban Blocks - Small Cities	An interdisciplinary study of urban renewal of small-town structures, combining historical-morphological analysis with the ethics of protecting the cultural landscape and identity of place. Practical design for the rehabilitation of degraded quarters, aiming at the restoration of spatial order through the harmonious integration of the historical fabric with new functions.	x		x			x				x
67	Internship	Execution of tasks in an industrial or research environment using the knowledge and skills achieved during studies.					x			x	x	x
68	Training in creativity. Creative Thinking.	Identification and enhancement of factors that foster creativity, bold and unconstrained thinking oriented toward achieving results. The team as a source of creative potential for generating novel and innovative ideas.		x			x					x

No.	Course name	Program content	1PLP1	1PLP10	1PLP2	1PLP3	1PLP4	1PLP5	1PLP6	1PLP7	1PLP8	1PLP9
69	Construction Law and Selected Health and Safety Issues	Formal definitions used in construction. Participants in the construction process. State institutions supervising the construction process. Consent for building works. Completion of construction. Remedial procedures in the construction process. Selected issues related to occupational health and safety regulations.	x	x		x			x			
70	Renewable Energy Sources	Theoretical, technical, legal, environmental, economic and social aspects of the use of renewable energy sources in a specific area.	x		x	x			x		x	
71	Principles of Energy Auditing and Energetical Certification of Buildings	Law aspects of building auditing and energy certification. Standards and computer programs used in auditing and energy certification of buildings. Measures of the economic viability of the investment. Ecological effect of thermo-modernization activities. Assessment of building thermal modernization in terms of energy and economic efficiency.	x		x	x			x		x	
72	Diploma Seminar	Applicable legal regulations, rules for writing a thesis, presentation and discussion of the results of the thesis. Preparation for a competency exam testing the aggregate learning outcomes.		x		x	x			x		
73	Final Project	Independent development and solution of an engineering task covering issues in spatial planning and related disciplines. Preparation of a written and graphic study presenting the problem-solving process and a presentation of the obtained results.	x			x		x				

ECTS - subjects

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
1	Mathematics I	8				
2	Physics	4			4	
3	Kompozycja urbanistyczna	4			4	
4	Descriptive Geometry	3				
5	Information Technologies I	3				
6	Engineering Drawing	3				
7	Social Aspects of Spacial Planning	5	5		5	
8	Mathematics II	7				
9	Information Technologies II	3			3	
10	Geomatics	4			4	
11	History of Town- Planning	4			4	
12	Single - Family Housing Designe	4			4	
13	Urban Planning Drawing	3				
14	English B2 module I	2		2		
15	English B2+ module I	2		2		
16	German B2 module I	2		2		
17	English C1 module I	2		2		
18	Photography Methods for Inventory	3		3		
19	Art. And Presentation Methods	3		3		
20	Ecophysiography	5				

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
21	Construction Technology	6				
22	Sustainable Development of the Built Environment	3			3	
23	Multi - Family Housing Designe	5			5	
24	Freehand Drawing	2				
25	English B2 module II	2		2		
26	English B2+ module II	2		2		
27	German B2 module II	2		2		
28	English C1 module II	2		2		
29	CAD in Urban Planning Practice	4		4		
30	Computer- Aided Technical Drawing	4		4		
31	Vernacular and Regional Building Technology	3		3	3	
32	Protection and Conservation of Monuments	3		3	3	
33	Solid Waste Management	3			3	
34	City Development Strategy	5			5	
35	Urban planning Doctrines	5			5	
36	Selected Aspects of Building Physics	3			3	
37	English B2 module III	2		2		
38	English B2+ module III	2		2		
39	German B2 module III	2		2		
40	English C1 module III	2		2		
41	Low-Energy Constructions	4		4	4	

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
42	Energy Management in Cities and Regions	4		4	4	
43	Modern Methods of Inventory and Data Processing	4		4	4	
44	Geoinformation in Planning	4		4	4	
45	Land Surveying for Real Estate	4		4		
46	Applications of Land Surveying and Cartography	4		4		
47	Transportation Systems Planning	4				
48	Utility Infrastructure Planning - Water Supply and Sewage Systems	4			4	
49	Utility Infrastructure Planning - Heating and Gas Networks	4			4	
50	Geoprocessing in Planning	4			4	
51	Master Plan	5			5	
52	Local Government	2				
53	Interdisciplinary Team Project - PBL	4				
54	English B2 module IV	3		3		
55	English B2+ module IV	3		3		
56	German B2 module IV	3		3		
57	English C1 module IV	3		3		
58	Local Law - Acts	6				
59	Real Estate Management	2			2	
60	Urban Acupuncture	4			4	
61	Summative Module	7		7		
62	Geographic Spatial Information Systems	3			3	

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
63	Project Management Basics. Communication and Negotiation	3	3	3	3	
64	Project Management Basics. Communication and Self-Presentation	3	3	3	3	
65	Rehabilitation of Degradaded Urban Blocks - Large Cities	5		5	5	
66	Rehabilitation of Degradaded Urban Blocks - Small Cities	5		5	5	
67	Internship	6				
68	Training in creativity. Creative Thinking.	2	2			2
69	Construction Law and Selected Health and Safety Issues	2				
70	Renewable Energy Sources	3		3		
71	Principles of Energy Audyting and Energetical Certification of Buildings	3		3		
72	Diploma Seminar	2				
73	Final Project	15		15	15	

ECTS indicators

Name	Value
The total number of ECTS credits that a student must obtain through elective courses (amounting to no less than 30% of the total ECTS credits required to obtain the qualification corresponding to the given level of study)	64/210 (30.48%)
The total number of ECTS credits to be earned by a student through courses in the fields of humanities or social sciences	10
The total number of ECTS credits that a student must obtain from courses related to research conducted at the university, amounting to more than 50% of the total ECTS credits required to graduate from a given level of study	112/210 (53.33%)

Methods of verifying and assessing learning outcomes

The verification of achieved learning outcomes requires the use of diverse assessment methods appropriate to the categories of knowledge, skills, and social competencies to which these outcomes pertain. The selection of suitable tools also depends on the specific nature of the subject and the format of the classes and is described in detail in the course syllabi. The achievement of the required learning outcomes is assessed through:

1. Written assignments (exams, quizzes, reports, essays, projects, posters, thesis, etc.);
2. oral assessments (oral exams, public speaking, e.g., delivering a paper, presentation, etc.);
3. Practical and/or project-based tasks (both individual and group work);
4. Observation and evaluation of students' participation and activity during classes;
5. Self-assessment and peer evaluation (especially in the case of group projects);
6. Competency exams and final diploma examinations.

Verification can be formative (partial, conducted multiple times during the course) and/or summative (final grade assessment). The final verification result is given according to the currently applicable grading scale.

The course coordinator or instructor is required to present the course syllabus during the first class and to clearly define and formally communicate the assessment methods and conditions for verifying learning outcomes.

Professional internships

Duration: 6 weeks

ECTS credits: 6

Internships are carried out in accordance with the study program in a format adapted to the profile and specifics of the field of study, following the regulations set by the faculty and the university.

Characteristics of the course

Graduate profile

Graduates possess the skills to conduct spatial analyses for economic and planning purposes using IT tools. They are able to apply the principles of spatial order and sustainable development in planning practice. They acquire engineering competencies that enable them to solve basic problems in construction and the functioning of urban infrastructure, including heating, gas, water supply, and transport networks.

They are capable of preparing urban design projects as well as planning and analytical studies covering diverse scales, techniques, and problem areas. They can develop urban inventories and analyses, concepts for the development and construction of single-family and multi-family housing complexes, concepts for the urban regeneration of degraded areas, planning documents—particularly local spatial development plans—as well as specialized engineering analyses of spatial transformations.

Graduates are prepared to work in planning and design offices, spatial planning departments within regional and national administration, and in local government units (municipal, county, and regional levels) in the implementation of public tasks supporting spatial development decision-making. They may also find employment in development agencies, real estate agencies, consulting and advisory firms, and other business environment institutions.

Graduates possess general competencies such as the ability to work in interdisciplinary teams, communicate in a foreign language, and identify, formulate, and solve problems.

The relationship between the field of study and the university's strategy

In accordance with Resolution No. 39/2024 of the Senate of the Lodz University of Technology of June 26, 2024, on the adoption of the Strategy of the Lodz University of Technology for 2025-2030, and in accordance with the Strategy of the Faculty of Civil Engineering, Architecture, and Environmental Engineering 2025 -2030 adopted on October 21, 2025, the mission of the university's development is to build a sustainable research university with a strong academic community, ensuring freedom of research and discussion, as well as modern education, developing local and global cooperation and innovation for the benefit of society, the economy, and the world.

In line with the university's mission, the Faculty aims to educate highly qualified specialists in spatial planning, capable of taking on the challenges of the 21st century, especially in the field of new engineering techniques and technologies, thus achieving, among other things, the University's goals related to its impact on the social environment. The skills acquired at the Faculty will enable them to achieve professional success, and their knowledge, social competences, and lifelong learning skills will give them an advantage in competing on the labor market.

Acting in accordance with its stated goal, the Faculty of Civil Engineering, Architecture, and Environmental Engineering at the Technical University of Łódź has developed an educational concept for the Spatial Planning program, with a focus on high-quality education and a modern curriculum. It aims to enable graduates to introduce advanced techniques and technologies into engineering practice and assumes their innovative use. One of the elements of these aspirations is to increase the content of the curriculum related to sustainable development, which is an important goal of the University's strategy. The Faculty also strives to actively cooperate with external and internal stakeholders in order to respond to both market needs and student needs. These activities are closely linked to the University's goals regarding student education and internationalization. The Faculty consistently and promptly implements all procedures planned at the rector's level for modern and efficient management. With this in mind, the Faculty's strategy is to conduct innovative research in cooperation with domestic and foreign universities and research institutions, as well as to cooperate with industry.

The Faculty also considers the adaptation of education to the needs of the regional labor market to be a strategic goal. This is evidenced by constant contact with internal and external stakeholders (entrepreneurs, government officials, social organizations, associations, and professional associations), with whom the Faculty consults on its plans.

Educational objectives and employment and continuing education opportunities

The aim of education in the field of Spatial Planning is to prepare graduates (engineers) for independent, conceptual work in the field of spatial management and to equip them with the knowledge, skills, and competences that enable them to adapt flexibly to the changing needs and requirements of the labor market.

In this context, the main tasks of education should be considered to be preparing students to:

- skillfully identify the relationships between the existing state of spatial development and new planning needs, as well as solve basic problems in the fields of civil engineering, geodesy, and transportation,
- shaping space for diverse needs on various scales, with a sense of responsibility for spatial order and harmony in the built environment as essential elements defining the life of society, while respecting the principles of sustainable development,
- carrying out spatial planning tasks related to local and regional development processes, using knowledge in the field of civil engineering, architecture, and urban planning,
- establishing cooperation with specialists from other fields, as well as undertaking professional activities on the domestic and international labor market.

The educational process includes courses on topics related to construction, urban engineering, general and strategic planning, urban design, shaping urban and regional development policies, and shaping spatial structures and rehabilitating degraded areas. Graduates who obtain the professional title of engineer in the field of Spatial Planning have knowledge and skills in the following areas:

- spatial planning and urban design at the local and regional level, taking into account the basics of construction, environmental engineering, architectural issues, and the fundamentals of natural, social, and economic sciences,
- the history and theory of urban planning, spatial planning, and selected technical and humanities sciences, the design of technical infrastructure for cities, including heating, gas, water supply, sewage, and transport networks,
- solving spatial, functional, utility, and engineering problems to a degree that ensures the safety and comfort of users, including people with disabilities,
- gathering information and conducting analytical and research processes using traditional and IT (technologically advanced) techniques,
- energy-efficient construction and energy certification of buildings.

As a result of their education, graduates acquire analytical, creative, methodological, and negotiation skills. They are able to apply their acquired knowledge in practice. They are prepared to make assessments, formulate judgments, and communicate with their surroundings. Such a broad spectrum of knowledge enables them to actively participate in the subsequent stages of planning and development of cities and municipalities. During their education, students have the opportunity to complete part of their studies at foreign universities as part of the Erasmus+ program, which increases their competitiveness on the labor market in Poland and Europe.

Employment and further study opportunities

Graduates of spatial planning can participate in:

- managing the spatial development of cities, municipalities, and regions, including drawing up programs aimed at increasing their competitiveness,
- developing formal and legal documents related to the spatial development of cities, municipalities, counties, and provinces,
- planning the development of technical infrastructure and transport systems,
- programming the socio-economic development of cities and rural areas,
- creating a vision for the development and transformation strategy of spatial units, including the rehabilitation and revitalization of degraded areas,
- real estate and land management processes.

Graduates are prepared to work in: planning and design offices, companies related to spatial management, including those operating in the field of investment and real estate, in spatial planning departments of local government administration (municipal, county, provincial) in the implementation of public tasks supporting decision-making in the field of spatial planning, development agencies, real estate agencies, consulting and advisory companies, and other business-related companies, institutions involved in counseling and dissemination of knowledge in the field of spatial planning. Graduates are prepared to continue their education in second-cycle studies.

Description of the process and outcome of consultations on the proposed study program with the socio-economic environment

The Spatial Planning program has been consulted in previous years in terms of specialized and professional education. The changes introduced to the program mainly concern internal regulations or updates to legal conditions and do not affect the substantive scope, so it can be concluded that the opinions resulting from previous consultations remain valid in relation to the proposed program.

The following entities submitted their opinions as part of the consultation process:

- Urban Planning and Architecture Department, Lodz;
- City Engineer's Office;
- Office of the City Conservator of Monuments;
- Revitalization Office;

- Municipal Urban Planning Studio;
- City Strategy Office;
- Roads and Transport Authority;
- Municipal Investment Board;
- Society of Polish Town Planners, Łódź Branch.

Educational programs are also reviewed by internal stakeholders during the definition process: students, doctoral students, and faculty members. A student representative actively participates in the work of the Program Council. Each year, the TUL Career Office provides the results of a survey on the professional careers of graduates.

Students and doctoral students submit their comments on both the study programs and the quality of teaching by academic staff through a system of evaluation surveys or during classroom observations. The main conclusions from these surveys are analyzed at meetings of the Education Quality Committee and forwarded to the Program Councils for their opinion.

The information gathered in this way, as well as the knowledge and experience gained, have a significant impact on the shape of the study program and the classes conducted.

Description of competencies expected from a candidate applying for admission to studies

In accordance with the recruitment resolution in force for a given academic year.

The unit organizing education

Faculty of Civil Engineering, Architecture and Environmental Engineering

Education program

Semester 1

Course	Number of hours	ECTS points	Form of verification	Obligatory
Mathematics I	Tutorials: 60 Lecture: 30	8	Graded assignment	Obligatory
Physics	Laboratory classes: 30 Lecture: 30	4	Graded assignment	Obligatory
Kompozycja urbanistyczna	Tutorials: 30 Lecture: 15	4	Exam	Obligatory
Descriptive Geometry	Laboratory classes: 30 Lecture: 15	3	Graded assignment	Obligatory
Information Technologies I	Laboratory classes: 30 E-learning: 15	3	Graded assignment	Obligatory
Engineering Drawing	Laboratory classes: 45	3	Graded assignment	Obligatory
Social Aspects of Spacial Planning	Tutorials: 30 Seminar: 15 Lecture: 30	5	Exam	Obligatory
Sum	405	30		

Semester 2

Course	Number of hours	ECTS points	Form of verification	Obligatory
Mathematics II	Tutorials: 60 Lecture: 30	7	Graded assignment	Obligatory
Information Technologies II	Laboratory classes: 30 E-learning: 15	3	Graded assignment	Obligatory

Course	Number of hours	ECTS points	Form of verification	Obligatory
Geomatics	Laboratory classes: 45 Lecture: 15	4	Exam	Obligatory
History of Town- Planning	Tutorials: 30 Lecture: 30	4	Exam	Obligatory
Single - Family Housing Designe	Project work: 45 Lecture: 15	4	Graded assignment	Obligatory
Urban Planning Drawing	Laboratory classes: 45	3	Graded assignment	Obligatory
Foreign Language Module 1		2	Graded assignment	Obligatory group
The student chooses 1 module				
English B2 module I	Tutorials: 30	2	Graded assignment	Optional
English B2+ module I	Tutorials: 30	2	Graded assignment	Optional
German B2 module I	Tutorials: 30	2	Graded assignment	Optional
English C1 module I	Tutorials: 30	2	Graded assignment	Optional
Physical Education 1	Tutorials: 30	0	Pass	Obligatory
Elective Courses 1		3	Graded assignment	Obligatory group
The student chooses 1 subject				
Photography Methods for Inventory	Laboratory classes: 30	3	Graded assignment	Optional
Art. And Presentation Methods	Laboratory classes: 30	3	Graded assignment	Optional
Sum	450	30		

Semester 3

Course	Number of hours	ECTS points	Form of verification	Obligatory
Ecophysiology	Tutorials: 15 Project work: 30 Lecture: 15	5	Exam	Obligatory

Course	Number of hours	ECTS points	Form of verification	Obligatory
Construction Technology	Laboratory classes: 15 Project work: 30 Lecture: 30	6	Exam	Obligatory
Sustainable Development of the Built Environment	Project work: 30 Lecture: 15	3	Graded assignment	Obligatory
Multi - Family Housing Designe	Project work: 45 Lecture: 15	5	Graded assignment	Obligatory
Freehand Drawing	Laboratory classes: 30	2	Graded assignment	Obligatory
Foreign Language Module 2		2	Graded assignment	Obligatory group
The student chooses 1 module				
English B2 module II	Tutorials: 30	2	Graded assignment	Optional
English B2+ module II	Tutorials: 30	2	Graded assignment	Optional
German B2 module II	Tutorials: 30	2	Graded assignment	Optional
English C1 module II	Tutorials: 30	2	Graded assignment	Optional
Physical Education 2	Tutorials: 30	0	Graded assignment	Obligatory
Elective Courses 2		4	Graded assignment	Obligatory group
The student chooses 1 subject				
CAD in Urban Planning Practice	Laboratory classes: 45	4	Graded assignment	Optional
Computer- Aided Technical Drawing	Laboratory classes: 45	4	Graded assignment	Optional
Elective Courses 3		3	Graded assignment	Obligatory group
The student chooses 1 subject				
Vernacular and Regional Building Technology	Seminar: 30 Lecture: 15	3	Graded assignment	Optional
Protection and Conservation of Monuments	Seminar: 30 Lecture: 15	3	Graded assignment	Optional
Sum	420	30		

Semester 4

Course	Number of hours	ECTS points	Form of verification	Obligatory
Solid Waste Management	Tutorials: 15 Project work: 15 Lecture: 15	3	Graded assignment	Obligatory
City Development Strategy	Project work: 45 Lecture: 15	5	Graded assignment	Obligatory
Urban planning Doctrines	Tutorials: 30 Lecture: 45	5	Exam	Obligatory
Selected Aspects of Building Physics	Laboratory classes: 30 Lecture: 15	3	Graded assignment	Obligatory
Foreign Language Module 3		2	Graded assignment	Obligatory group
The student chooses 1 module				
English B2 module III	Tutorials: 30	2	Graded assignment	Optional
English B2+ module III	Tutorials: 30	2	Graded assignment	Optional
German B2 module III	Tutorials: 30	2	Graded assignment	Optional
English C1 module III	Tutorials: 30	2	Graded assignment	Optional
Elective Courses 4		4	Graded assignment	Obligatory group
The student chooses 1 subject				
Low-Energy Constructions	Laboratory classes: 30 Lecture: 15	4	Graded assignment	Optional
Energy Management in Cities and Regions	Laboratory classes: 30 Lecture: 15	4	Graded assignment	Optional
Elective Course 5		4	Graded assignment	Obligatory group
The student chooses 1 subject				
Modern Methods of Inventory and Data Processing	Project work: 45	4	Graded assignment	Optional
Geoinformation in Planning	Project work: 45	4	Graded assignment	Optional

Course	Number of hours	ECTS points	Form of verification	Obligatory
Elective Courses 6		4	Graded assignment	Obligatory group
The student chooses 1 subject				
Land Surveying for Real Estate	Project work: 30 Lecture: 15	4	Graded assignment	Optional
Applications of Land Surveying and Cartography	Project work: 30 Lecture: 15	4	Graded assignment	Optional
Sum	390	30		

Semester 5

Course	Number of hours	ECTS points	Form of verification	Obligatory
Transportation Systems Planning	Project work: 30 Lecture: 15	4	Exam	Obligatory
Utility Infrastructure Planning - Water Supply and Sewage Systems	Tutorials: 15 Project work: 30 Lecture: 15	4	Graded assignment	Obligatory
Utility Infrastructure Planning - Heating and Gas Networks	Project work: 30 Lecture: 15	4	Graded assignment	Obligatory
Geoprocessing in Planning	Laboratory classes: 45	4	Graded assignment	Obligatory
Master Plan	Project work: 45 Lecture: 15	5	Graded assignment	Obligatory
Local Government	Tutorials: 15 Lecture: 15	2	Graded assignment	Obligatory
Interdisciplinary Team Project - PBL	Project work: 60	4	Graded assignment	Obligatory
Foreign Language Module 4		3	Exam	Obligatory group
The student chooses 1 module				
English B2 module IV	Tutorials: 30	3	Exam	Optional

Course	Number of hours	ECTS points	Form of verification	Obligatory
English B2+ module IV	Tutorials: 30	3	Exam	Optional
German B2 module IV	Tutorials: 30	3	Exam	Optional
English C1 module IV	Tutorials: 30	3	Exam	Optional
Physical Education 3	Tutorials: 30	0	Pass	Obligatory
Sum	405	30		

Semester 6

Course	Number of hours	ECTS points	Form of verification	Obligatory
Local Law - Acts	Project work: 60 Lecture: 30	6	Exam	Obligatory
Real Estate Management	Project work: 30 Lecture: 15	2	Graded assignment	Obligatory
Urban Acupuncture	Project work: 45 Lecture: 15	4	Graded assignment	Obligatory
Summative Module	Project work: 60	7	Graded assignment	Obligatory subjects to choose from
Geographic Spatial Information Systems	Laboratory classes: 45	3	Graded assignment	Obligatory
Elective Courses 7		3	Graded assignment	Obligatory group
The student chooses 1 subject				
Project Management Basics. Communication and Negotiation	Seminar: 30 Lecture: 15	3	Graded assignment	Optional
Project Management Basics. Communication and Self-Presentation	Seminar: 30 Lecture: 15	3	Graded assignment	Optional
Elective Courses 8		5	Graded assignment	Obligatory group
The student chooses 1 subject				

Course	Number of hours	ECTS points	Form of verification	Obligatory
Rehabilitation of Degradated Urban Blocks - Large Cities	Project work: 45 Lecture: 15	5	Graded assignment	Optional
Rehabilitation of Degradated Urban Blocks - Small Cities	Project work: 45 Lecture: 15	5	Graded assignment	Optional
Sum	405	30		

Semester 7

Course	Number of hours	ECTS points	Form of verification	Obligatory
Internship	Internship: 0	6	Pass	Obligatory
Training in creativity. Creative Thinking.	Seminar: 30	2	Graded assignment	Obligatory
Construction Law and Selected Health and Safety Issues	Seminar: 15 Lecture: 30	2	Graded assignment	Obligatory
Elective Courses 9		3	Graded assignment	Obligatory group
The student chooses 1 subject				
Renewable Energy Sources	Tutorials: 30 Lecture: 15	3	Graded assignment	Optional
Principles of Energy Auditing and Energetical Certification of Buildings	Tutorials: 30 Lecture: 15	3	Graded assignment	Optional
Diploma Seminar	Seminar: 30	2	Graded assignment + exam	Obligatory
Final Project	Diploma Thesis: 0	15	Pass	Obligatory subjects to choose from
Sum	150	30		