



Lodz University
of Technology

Study programme

Faculty:	Faculty of Organization and Management
Major:	Management
Level of study:	first-cycle programme (licencjat)
Form of study:	full-time studies
Academic year:	2026/27

Table of contents

Basic information	3
Learning outcomes (in relation to the PQF)	4
Matrix of course modules in relation to learning outcomes and curriculum content	5
ECTS - subjects	12
ECTS indicators	16
Methods of verifying and assessing learning outcomes	17
Professional internships	18
Characteristics of the course	20
Education program	23

Basic information

Name of the field of study:	Management
Level of study:	first-cycle programme (licencjat)
Study profile:	general academic
Form of studies:	full-time studies
Duration of studies (number of semesters):	6
The number of ECTS points required to complete studies:	180
Total number of hours of classes:	2250
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:	90
Professional title awarded to graduates:	licencjat
ISCED code:	0413
Language of study:	polish

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

Discipline	Percentage share
Management science and quality	100%

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	1ZAR1	They have an advanced knowledge and understanding of the theories, concepts, and methods of management and quality sciences, as well as their application in analyzing and improving the functioning of modern organizations.	P6U_W	P6S_WG
2	1ZAR2	They have an advanced knowledge and understanding of the mechanisms governing the functioning of modern organizations, as well as the economic, legal, social, and ethical conditions of their operations, including the principles of intellectual property protection and quality standards in management.	P6U_W	P6S_WK
3	1ZAR3	They are able to identify, analyze, and interpret complex managerial problems using appropriately selected management methods and tools, as well as data drawn from various sources.	P6U_U	P6S_UW
4	1ZAR4	They are able to communicate in a professional manner using specialist management terminology, participate in a debate, critically evaluate positions, and prepare written work, including in a foreign language at a level of at least B2 according to the Common European Framework of Reference for Languages.	P6U_U	P6S_UK
5	1ZAR5	They are able to plan and organize both individual and team work, cooperating effectively with others in the dynamically changing conditions of organizational functioning.	P6U_U	P6S_UK, P6S_UO
6	1ZAR6	They are able to independently plan and carry out lifelong learning, develop managerial competences, and make use of modern knowledge sources and digital tools that support professional development.	P6U_U	P6S_UU
7	1ZAR7	They are ready to evaluate their knowledge critically and recognise the importance of working with experts in the process of solving management problems.	P6U_K	P6S_KK
8	1ZAR8	They are prepared to fulfil their civic duties, co-organise activities for the benefit of the community and the public interest, and think and act in an entrepreneurial manner.	P6U_K	P6S_KO
9	1ZAR9	They are prepared to responsibly fulfil the role of manager, adhere to the principles of business ethics, and promote a pro-quality culture within the organisation.	P6U_K	P6S_KO, P6S_KR
10	1ZAR10	They are ready to make independent decisions in difficult situations and to take responsibility for their consequences within the organization and its environment.	P6U_K	P6S_KO, P6S_KR

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

No.	Course name	Program content	1ZAR1	1ZAR2	1ZAR3	1ZAR4	1ZAR5	1ZAR6	1ZAR7	1ZAR8	1ZAR9	1ZAR10
1	Fundamentals of Management	The essence of management and the manager's role in the functioning of an organization. The organizational environment. Basic managerial functions performed within an organization. Trends and concepts in the development of management thought. Management functions: planning, organizing, motivating, and controlling.	x			x				x	x	
2	Communication and Teamwork	Interpersonal competences in organizational settings. The role of communication in professional cooperation processes. Interpersonal relationships in the workplace. Teamwork in organizations. Mechanisms and determinants of effective team functioning.	x			x	x					
3	Applied Logic	The concept of language and its functions. Errors in verbal communication of ideas. Acceptance and justification of statements. Logical implication and inference. Argumentation and eristic techniques. Errors in reasoning. Practical issues in formulating questions and providing answers.		x					x			
4	Mathematical Methods in Business	Properties of functions. Sequences. Interest and discounting. Deposit calculations and loan repayment. Bonds. Matrix calculus. Systems of linear equations. Probability. Derivative and integral in statistics. Discrete and continuous random variables.		x	x							
5	Fundamentals of Economics and Finance	Basic issues of microeconomics. Market and firm functioning. Market structures and their characteristics. Factor markets. Basic concepts of macroeconomics. National income accounting and its determinants. Money market and banking system. Labour market and inflation. Fundamentals of financial mathematics. Time value of money. Methods of investment project appraisal. Discounted approach in investment analysis.		x	x	x						
6	Information Technologies in Management	Document creation and standardization. Data analysis and organization. Preparation of presentations and visual communication. Basics of algorithmization and automation. Digital hygiene and cybersecurity. Responsible use of artificial intelligence in working with content and data.			x		x					
7	Organization of a Manager's Work	Managerial work organization. Organization as a socio-technical system. Functioning of the contemporary work environment. Processes, roles and interdependencies in organizations. Operational task planning and structuring. Short-term goals and priorities. Work scheduling. Task delegation. Organization of individual and team work. Identification of organizational problems. Basic organizational improvements. Basic occupational health and safety responsibilities of the employer.	x	x			x		x			
8	Basics of Marketing	Product and its importance in influencing recipients. Market segmentation, targeting and product positioning. The marketing research process and its stages.	x	x	x	x						
9	Organizational Behavior	Human behaviour in organizations. Individual, team and organizational levels. Psychological determinants of organizational behaviour. Attitudes, values, perception and learning. Dynamics of behaviour in organizational situations. Motivation, social influence and organizational pressure. Effectiveness, engagement and cooperation in organizations.	x				x			x		

No.	Course name	Program content	1ZAR1	1ZAR2	1ZAR3	1ZAR4	1ZAR5	1ZAR6	1ZAR7	1ZAR8	1ZAR9	1ZAR10
10	Introduction to Data Analysis	Data presentation and visualization. Descriptive statistics. Basics of dynamic analysis. Data analysis using spreadsheets. Business Intelligence tools. Use of AI in data analysis and interpretation.	x		x	x						
11	Digital Tools in the Work of a Manager	Digital tools in managerial and project team work. Document co-creation and version control. Organization of teamwork in a digital environment. Online communication and collaboration. Team knowledge management. Digital work security and responsible use of artificial intelligence.			x		x					
12	Basis of Project Management	Project management methods and techniques. Project preparation and goal definition. Project roadmaps. Planning of scope, schedule and budget. Project risk management.	x		x		x					
13	Designing Sales and Communication Solutions (PBL)	Analysis of customer needs and the design of effective business tools. Integration of marketing and sales tools to create coherent organizational solutions. Development of practical solutions supporting sales and communication processes that can be implemented in business practice. Building project, analytical, and teamwork competences in the context of solving real business problems.				x	x		x			
14	Design Thinking in Communication and Sales	Design thinking methodology in communication and sales. Empathic approach to the customer and user experience analysis. Defining business problems from the user perspective. Generation of innovative ideas. Prototyping and testing of solutions. Creativity, teamwork and implementation of market actions.				x	x		x			
15	Ethics	Descriptive and normative ethics. Theories of morality. Ethics and law relations. Social determinants of moral development. Moral diversity. Contemporary ethical dilemmas.		x						x	x	
16	Anthropology	Human beings in cultural, social and organizational perspectives. Basic anthropological concepts. Cultural and social reality. Organizational context of human functioning. Basic methods of anthropological research.		x						x	x	
17	English B2 module I	First part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
18	English B2+ module I	First part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
19	English C1 module I	First part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
20	German B2 module I	First part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.				x						

No.	Course name	Program content	1ZAR1	1ZAR2	1ZAR3	1ZAR4	1ZAR5	1ZAR6	1ZAR7	1ZAR8	1ZAR9	1ZAR10
21	Quality Management	Basic concepts and principles of quality. The role of quality in organizational performance. TQM philosophy. Principles and process-based quality management. Customer orientation. Quality management methods and tools. Quality in the context of competitiveness and organizational responsibility.	x	x	x						x	
22	Corporate Finance and Accounting	Principles and structure of financial statements. Recording of business transactions. Impact of transactions on financial statements. Financial statement analysis. Horizontal, vertical and ratio analysis. Management of a firm's operating activities. Inventory, receivables and capital management.		x	x							
23	Statistics in Management	Estimation of population parameters. Point estimation. Interval estimation. Statistical hypothesis testing. Parametric and non-parametric tests. Use of AI tools in statistical inference.		x	x							
24	Fundamentals of Strategic Management	Basic concepts and importance of strategic management. Strategic process in organizations. Analysis of the environment and organizational resources. Strategy formulation, implementation and control. Types of strategies and strategic choices. Strategy and competitive advantage in achieving organizational goals.	x		x	x						x
25	Production and Occupational Safety Management	Production system and its functioning. Production planning and control. Management of production resources and costs. Methods and systems supporting production management. Occupational health and safety management. Occupational risk, economic aspects of OHS and safety culture.	x		x	x					x	
26	Manager' Social Competences	Managerial social effectiveness in complex organizational relationships. Social capital, trust and authority. Mechanisms of social influence and ethics of influence. Organizational politics and informal networks. Stakeholder diagnosis and dependency management. Consensus-building strategies, facilitation and alliance building without formal authority.					x	x	x			x
27	Managerial Competencies Training	The role and importance of the manager in organizations. Functions and responsibilities of managerial staff. Key managerial skills. Practical development of managerial competences. Simulations and case studies in management.					x	x	x			x
28	Labour Law	Fundamentals of individual and collective labour law. Sources of labour law and employment relationship. Rights and obligations of the parties to the employment relationship. Working time and remuneration. Employee liability and parental rights. Occupational health and safety and social dialogue.		x	x				x			
29	Economic Law	Fundamentals of economic activity in a market economy. Sources of commercial law. Organizational and legal forms of entrepreneurs. Registration, representation and liability of entrepreneurs. Contract law in commercial transactions. Competition, consumer protection, and bankruptcy and restructuring law.		x	x				x			
30	English B2 module II	Second part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
31	English B2+ module II	Second part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						

No.	Course name	Program content	1ZAR1	1ZAR2	1ZAR3	1ZAR4	1ZAR5	1ZAR6	1ZAR7	1ZAR8	1ZAR9	1ZAR10
32	English C1 module II	Second part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
33	German B2 module II	Second part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.				x						
34	Human Resource Management	Resource planning and personnel policy models. Selected elements of the human resources management process and tools. Key performance indicators (KPIs) for HR.	x				x			x	x	
35	Digital Managerial Decision-Making Competences	Digital functioning of managers in organizations. Selection and evaluation of digital solutions from a business goals perspective. Information and workflow management. Data-driven managerial decision-making. Digital communication and collaboration with distributed teams. Information security, risk management, regulatory compliance and ethics of AI use.			x	x						
36	Change Management	The nature and dynamics of organizational change. Models of organizational change. Diagnosing organizational change: stakeholders, power/politics, and resistance to change at the individual and group levels. Leadership and communication in change. Organizational change project management. Digital transformation and AI in organizational change. Tools for redesign and organizational development (OD). Sustaining and scaling change.	x									x
37	Management Accounting and Budgeting	The characteristics of management accounting and the fundamental issues that it addresses. The main cost classifications and cost systems with particular emphasis on their diverse functions. The use of individual cost categories in short- and long-term decision-making in enterprise management.		x	x	x						
38	Operational Controlling and Cost Analysis	The role of controlling in production management. Advanced cost accounting methods. Activity-Based Costing and Target Costing. Analysis and optimization of manufacturing process costs. Bottlenecks and production performance indicators. Inventory controlling, internal logistics and operational reporting. Product profitability analysis in industrial enterprises.		x	x	x						
39	Supply Chain Management	Design and optimization of integrated material and information flows. Strategic inventory management and procurement processes. Distribution logistics and operational efficiency. Digital technologies in logistics process monitoring. Risk management and supply chain resilience. Sustainable development, reverse logistics and circular economy.	x		x		x					
40	Basics of Logistics	Basic concepts and functions of logistics. Supply chain management and logistics terminology. Procurement, production and distribution processes. Integration of processes in logistics systems. Transport infrastructure and customer service. Information technologies in logistics and linkages within supply networks.	x		x		x					

No.	Course name	Program content	1ZAR1	1ZAR2	1ZAR3	1ZAR4	1ZAR5	1ZAR6	1ZAR7	1ZAR8	1ZAR9	1ZAR10
41	Conflicts in Organizations	The nature and sources of conflict in organizations. Definitions, typologies, and functions of conflict. Dynamics and mechanisms of conflict. Styles and strategies of conflict management. Interpersonal communication in conflict situations. Conflict as a factor in organizational development.							x		x	x
42	Business Negotiations	Fundamentals of business negotiations. Preparation for the negotiation process. Negotiation strategies and techniques. Communication in negotiations. Negotiation exercises and simulations.							x		x	x
43	English B2 module III	Third part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
44	English B2+ module III	Third part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
45	English C1 module III	Third part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
46	German B2 module III	Third part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.				x						
47	Process Management	Process-oriented approach in organizations. Process identification and mapping. Customer service, order fulfillment and support processes. Analysis of errors, delays and process costs. Process improvement methods and Lean Management. Process performance metrics and IT support.	x			x						
48	Employer Branding	Employer brand management from strategic and operational perspectives. Employer Branding and organizational, HR and communication goals. Diagnosis of employer attractiveness and employee needs. Data analysis and reporting in Employer Branding. EB action planning and performance indicators. Managerial deliverables and presentation of results.			x	x					x	
49	Sustainable Management	Principles of sustainable management. Sustainable organizational decision-making. Integration of economic, environmental and social goals. Corporate governance and the ESG concept. The role of managers in ESG integration. Strategies, processes and performance measurement systems across value chains.		x						x	x	
50	Research Methodology	Fundamentals of scientific research in management sciences. Formulation of research problems and objectives. Literature studies and the use of AI in research. Qualitative and quantitative research methods and techniques. Analysis and interpretation of research results. Research integrity, ethics and planning of research projects.						x	x			

No.	Course name	Program content	1ZAR1	1ZAR2	1ZAR3	1ZAR4	1ZAR5	1ZAR6	1ZAR7	1ZAR8	1ZAR9	1ZAR10
51	Management Workshop	Practical problem-solving in managerial and business contexts. Teamwork and project management. Planning, work organization and managerial decision-making. Elements of engineering graphics and technical documentation. Use of CAD tools and basic engineering calculations. Product life cycle, standardization and normalization in management.			x		x	x	x			x
52	Artificial Intelligence for Business	Artificial intelligence in modern organizations. Business value of AI and competitive advantage. Fundamentals of machine learning, NLP and generative AI. AI applications in operations, supply chains, marketing and finance. AI in risk management and decision-making. AI-driven strategies and business models and scaling AI solutions.			x	x						
53	Digital Transformation of Enterprise	The essence of digital transformation and its distinction from IT implementation. Digital technologies and their impact on business models. Digital strategy and its alignment with corporate strategy. Business process mapping and digitization. Data, analytics, cybersecurity and legal and ethical aspects. Organizational change management and the role of transformation leaders.			x	x						
54	Creative Problem-Solving Methods in Projects	Critical, creative, linear and lateral thinking. Design-oriented thinking in teamwork. Problem structuring and solution generation. Design Thinking methodology. Working with user and stakeholder needs. Workshop-based implementation of project solutions.			x				x			
55	Project Manager's Tools and Work Methods	Methods and tools for project team work. Preparation and execution of project activities. Definition and planning of project processes. Implementation of team collaboration processes. Coordination of activities within a project.			x				x			
56	English B2 module IV	Fourth part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
57	English B2+ module IV	Fourth part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
58	English C1 module IV	Fourth part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.				x						
59	German B2 module IV	Fourth part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.				x						
60	Law and Commercialization of Research Results	Commercialization of research results and technology transfer. Intellectual property protection in R&D. Patents, designs, trademarks, copyright and trade secrets. Invention disclosure procedures and state-of-the-art analysis. Science-business cooperation, licensing and R&D contracts. Legal risk management and IP management in innovation implementation.		x		x			x			

No.	Course name	Program content	1ZAR1	1ZAR2	1ZAR3	1ZAR4	1ZAR5	1ZAR6	1ZAR7	1ZAR8	1ZAR9	1ZAR10
61	Internship	Familiarization with the functioning of enterprises and organizations. Practical application of theoretical knowledge in management. Management methods, techniques and tools in practice. Identification, diagnosis and solving of managerial problems. Management of material resources, finances and information. Analysis and evaluation of management processes and environmental impact. Performance of operational management functions in processes and projects. Managerial decision-making. Communication, negotiation, persuasion and teamwork skills.						x				x
62	Diploma Seminar	The content of education is adequate to the issues of the research topics selected and accepted by the RKS and the supervisor, undertaken by the graduates. The structure of the diploma thesis. Technical issues related to the preparation of the diploma thesis – editorial requirements Creating a literature database (APA) – methods of collecting data. Presentations of subsequent stages of the implementation of diploma theses – discussion of examples of diploma theses. Discussion of the principles of operation of the anti-plagiate system. Transfer of knowledge on the principles of preparation, content and technical issues related to the competency exam – discussion of a selected example.				x		x	x			
63	Innovative Entrepreneurship	Entrepreneurship and innovativeness in the VUCA and BANI world. Identification of market problems and opportunities. Idea generation and value proposition design. Business models and Canvas tools. Team-based development of a business concept. Entrepreneurial competences and the role of the entrepreneur and intrapreneur.		x	x				x	x		
64	Final Project	Independent preparation of a bachelor's thesis. Thesis development under the supervisor's guidance. Preparation of the thesis in accordance with the approved concept. Formal and editorial requirements of the thesis. Conducting research and analysis of results. Formulation of conclusions and submission of the complete diploma thesis.					x	x				
65	Management Consulting	The essence of management consulting. Models and areas of management consulting. The consulting process: problem diagnosis, data analysis, formulating recommendations, and implementing solutions. Consultant work methods and tools.			x		x					x
66	Simulation Games in Business	Decision simulations in organizational management. Analysis of complex business situations. Managerial decision-making. Evaluation of decision outcomes in simulated conditions. Analytical and critical thinking. Teamwork and decision-making under uncertainty and risk.			x		x					x
67	Environmental Efficiency of Enterprises	Environmental performance management in organizations. Resource utilization and reduction of environmental impact. Building long-term environmental value. Environmental management approaches and tools. Environmental performance indicators. Environmental efficiency across the value chain.		x	x					x		
68	Solutions for the Circular Economy	The concept of the circular economy. Retention of resource value within systems. Business process design in the circular economy model. Management of material, product and energy loops. Organizational solutions in the circular economy. Circular economy in enterprises and value chains.		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	Fundamentals of Management	5			5	
2	Communication and Teamwork	3			3	
3	Applied Logic	2	2		2	
4	Mathematical Methods in Business	6			6	
5	Fundamentals of Economics and Finance	5			5	
6	Information Technologies in Management	5				
7	Organization of a Manager's Work	4			4	
8	Basics of Marketing	4			4	
9	Organizational Behavior	4			4	
10	Introduction to Data Analysis	4			4	
11	Digital Tools in the Work of a Manager	3				
12	Basis of Project Management	4				
13	Designing Sales and Communication Solutions (PBL)	5		5		
14	Design Thinking in Communication and Sales	5		5		
15	Ethics	4	4	4		
16	Anthropology	4	4	4		
17	English B2 module I	2		2		
18	English B2+ module I	2		2		
19	English C1 module I	2		2		
20	German B2 module I	2		2		
21	Quality Management	4			4	

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
22	Corporate Finance and Accounting	5			5	
23	Statistics in Management	4			4	
24	Fundamentals of Strategic Management	3			3	
25	Production and Occupational Safety Management	3			3	
26	Manager' Social Competences	5		5		
27	Managerial Competencies Training	5		5		
28	Labour Law	4		4		
29	Economic Law	4		4		
30	English B2 module II	2		2		
31	English B2+ module II	2		2		
32	English C1 module II	2		2		
33	German B2 module II	2		2		
34	Human Resource Management	4			4	
35	Digital Managerial Decision-Making Competences	3			3	
36	Change Management	3			3	
37	Management Accounting and Budgeting	5			5	
38	Operational Controlling and Cost Analysis	4				
39	Supply Chain Management	5		5		
40	Basics of Logistics	5		5		
41	Conflicts in Organizations	4		4		
42	Business Negotiations	4		4		
43	English B2 module III	2		2		

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
44	English B2+ module III	2		2		
45	English C1 module III	2		2		
46	German B2 module III	2		2		
47	Process Management	3			3	
48	Employer Branding	3			3	
49	Sustainable Management	3			3	
50	Research Methodology	2			2	
51	Management Workshop	7				
52	Artificial Intelligence for Business	5		5	5	5
53	Digital Transformation of Enterprise	5		5	5	5
54	Creative Problem-Solving Methods in Projects	4		4		
55	Project Manager's Tools and Work Methods	4		4		
56	English B2 module IV	3		3		
57	English B2+ module IV	3		3		
58	English C1 module IV	3		3		
59	German B2 module IV	3		3		
60	Law and Commercialization of Research Results	3			3	
61	Internship	6				
62	Diploma Seminar	2				
63	Innovative Entrepreneurship	2				
64	Final Project	10		10		
65	Management Consulting	4		4		

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
66	Simulation Games in Business	4		4		
67	Environmental Efficiency of Enterprises	3		3		
68	Solutions for the Circular Economy	3		3		

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)	62/180 (34.44%)
The total number of ECTS credits to be earned by a student through courses in the fields of humanities or social sciences	6
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	90/180 (50%)

Methods of verifying and assessing learning outcomes

The verification of learning outcomes is based on a variety of assessment methods, tailored to the categories of outcomes: knowledge, skills and social competences. The choice of tools depends on the specific nature of the subject and the form of teaching and is described in detail in the course descriptions.

Achievement of the required outcomes will be assessed by means of:

written work (exams, tests, reports, essays, projects, posters, dissertation),
oral presentations (oral knowledge tests, presentations, papers),
practical and project-based tasks (individual and group),
observation and assessment of participation during classes,
self-assessment and peer assessment (particularly in group projects),
a competency-based exam and a final exam.

Assessment may be formative (ongoing, repeated during classes) or summative (final). The final result is awarded in accordance with the grading scale set out in the TUL Study Regulations.

Assessment methods are applied both during classes at the university and in companies, including during study visits, work placements, project work and dissertation projects. The course coordinator, together with the teaching team, is responsible for the assessment process.

Details of the methods of assessment and evaluation of learning outcomes are provided for each course in the Course Description. It contains information on: learning outcome indicators (knowledge, skills, social competences), methods of assessment tailored to the nature of the outcome, learning outcomes assigned to the degree programme, and the forms and conditions for passing the course. In accordance with the Study Regulations in force at TUL, every student receives full information regarding the verification and assessment of learning outcomes, in accordance with the Course Description, during the first class of a given course.

An additional tool for verifying learning outcomes for the entire course of study is the competency examination, conducted in the final semester. It is based on a case study analysis and involves testing knowledge and skills in accordance with the three levels of Bloom's taxonomy. The examination is conducted by a committee appointed by the Vice-Dean for Student Affairs, and its result forms part of the final assessment.

Upon passing all the modules specified in the study programme and the competency exam, the student is entitled to defend their dissertation. This is the final stage of verifying learning outcomes, where the result obtained is a component of the grades from the process of preparing the dissertation, its review and the course of the dissertation examination.

Professional internships

The placement lasts a minimum of 6 weeks, during which the student will devote at least 100 teaching hours (75 clock hours) to carrying out various tasks (as agreed with the placement organiser). The placement is carried out on the basis of the document 'Notification of the location and programme of the placement', approved by the Faculty Placement Supervisor (the supervisor is responsible for academic supervision, ensuring the placement aligns with the learning outcomes, and its completion), which specifies: the location of the placement, the scope of the intern's tasks and responsibilities, the duration of the placement, and the contact details of the Company Placement Supervisor (the supervisor who provides substantive supervision of the student during the placement and issues a final assessment of the student's performance and completion of the placement).

Suggested placement locations include: service companies, public administration institutions and offices, design and consultancy firms, R&D units, manufacturing companies, other business and administrative entities, as well as non-governmental organisations (NGOs), where technical, economic and IT knowledge in the field of organisational management is applied in an operational capacity. The placement must be carried out in accordance with data protection principles, confidentiality of information, and academic and professional ethics. During the placement, the student is responsible for the safe use of IT tools.

The objectives of the placement have been set out in a placement programme, which covers specific topics that the student should familiarise themselves with during the placement.

The objectives of the placement are:

1. To familiarise the student with the functioning of a company and/or organisation
2. To introduce the student to the practical application of the theoretical topics covered so far, with particular emphasis on those related to the field of management.
3. To acquire and expand students' knowledge and skills in the methods, techniques and tools of business and/or organisational management.
4. To develop and deepen practical skills in identifying, diagnosing and solving problems related to the management of material resources, finances, information, and technical and technological issues.
5. To develop and deepen practical skills in the critical analysis, interpretation and evaluation of management phenomena and processes on various scales, as well as the assessment of the environment's impact on these phenomena,
6. Preparing students to perform basic (operational) process (project) management functions in economic organisations and/or to prepare and make management decisions,
7. Developing and enhancing skills in effective communication, negotiation, persuasion and teamwork.

During the placement, student trainees must:

1. Familiarise themselves with and comply with the internship regulations.
2. Comply with health and safety regulations.
3. Familiarise yourself with the scope of your duties, as well as the regulations, codes of conduct, procedures and working methods applied within the company and/or organisation.
4. Maintain regular contact with the placement supervisor from the company and/or organisation, and work effectively as part of a team.
5. Familiarise yourself with the following issues: the legal status and formal legal basis for the operation of the company and/or organisation, the organisational structure, the core processes carried out within the company and/or organisation, the technical solutions and information technologies in use, the systems and methods for document circulation and information flow, the logistics system and issues related to supply chain management, human resource management systems, the systems and functioning of financial and accounting departments, and the organisation and functioning of the marketing system within the company and/or organisation.

The basis for passing the placement is the achievement of all the intended learning outcomes relating to student placements and the submission of complete documentation.

Upon completion of the placement, students prepare a written report describing the course of the placement, confirming their familiarity with the required topics and containing an assessment of the course and completion of the placement issued by the Departmental Placement Supervisor, as well as an assessment of the placement venue and conditions issued by the student. On the basis of the information contained in the report, the Faculty Internship Supervisor assesses whether and to what extent the learning objectives and outcomes have been achieved. The number of ECTS credits awarded for the professional internship is 4.

The placement may be completed by the student prior to the semester in which it is included

in the study programme, but this must be done with the consent of the Faculty Internship Supervisor.

The placement must be completed before sitting the final examination. Placements may be undertaken remotely or in a hybrid format, provided that the following conditions are met:

1. There is a specific unforeseen circumstance preventing the student from undertaking the placement in person.
2. The nature of the tasks allows them to be carried out remotely.
3. The achievement of the learning outcomes specified in the study programme is ensured.
4. The student is guaranteed regular contact with the company internship supervisor.
5. The placement programme has been approved by the Faculty Placement Supervisor.
6. An application with a written justification of the reason necessitating the completion of the placement in a remote and/or hybrid mode has been submitted and accepted by the Vice-Dean for Student Affairs.

Characteristics of the course

Graduate profile

Graduates of the first-cycle Management programme possess interdisciplinary knowledge in the fields of management sciences, economics, finance and law, enabling them to understand the functioning of contemporary economic, public and non-governmental organisations. They are prepared to operate in an organisational environment characterised by change, digitalisation and the growing complexity of processes. The graduate profile is shaped within the context of a technical university, which is reflected in the strong focus of the programme on the practical, technological and organisational realities of modern business operations.

Graduates understand an organisation as a socio-technical system and possess knowledge of work organisation, process, project and human resource management, logistics, quality management, controlling and the improvement of operational activities. They are familiar with the basic mechanisms of managerial decision-making and the importance of innovation and sustainable development in an organisation's operations.

Graduates are able to identify and analyse organisational problems and support decision-making processes using basic management methods and tools. They are prepared to participate in project implementation, the planning and streamlining of organisational processes, and the assessment of operational effectiveness. They are proficient in using IT and digital tools to support management, prepare management reports and analyses, and communicate professionally in the workplace, including in a foreign language.

During their studies, graduates acquire competencies in the use of digital and analytical tools supporting management, including information systems and basic data analysis tools. They are familiar with the potential applications of modern digital technologies, including artificial intelligence-based tools, as elements supporting organisational and decision-making processes.

Graduates possess well-developed social skills, in particular the ability to work in a team, to fulfil professional roles responsibly, and to collaborate in an interdisciplinary environment. They are aware of the importance of ethics and responsibility in organisational activities, demonstrate a proactive attitude, openness to change, and a willingness to engage in continuous learning.

Graduates of the Management programme are prepared to take up employment in, amongst others: technology and innovation companies, multinational corporations, consulting agencies, and public institutions implementing digital solutions.

Graduates are prepared to take up specialist roles in the fields of organisation and management, process management, logistics, quality, and controlling, project management and human resources, as well as to continue their education at postgraduate level.

The graduate profile was developed with the involvement of external stakeholders, and the programme of study takes into account the current needs of the labour market.

1. Link between the degree programme and the University's strategy:

The educational process within the first-cycle Management programme is in line with the mission of Lodz University of Technology as set out in the University's Strategy for 2025-2030. There is a particularly high level of alignment between this programme and the aforementioned objectives, particularly those relating to the development of a sustainable research university based on modern forms of education and innovations that benefit society at regional, national and global levels. Enabling students on the Management programme to acquire knowledge, skills, experience and social competences of the highest standard will allow both the general and specific objectives set out in relation to the key areas of development of the Lodz University of Technology to be achieved. A complete redefinition of the programme will create the conditions for training managers prepared to take on challenges in today's highly turbulent market environment, equipped with up-to-date knowledge of modern management and the competencies to respond flexibly to change. This is particularly in line with the University's objectives relating to key areas of activity, which include: innovation, a lasting impact on the socio-economic environment, talent development, sustainable development, modern education, internationalisation, and students as active participants in these activities. The first-cycle Management programme will make synchronous use of the latest teaching methods, enabling the active development of talent by discovering and nurturing students' abilities and individual passions, as well as channelling their intellectual potential, including their creative and social potential, for the common good of the TUL community and society as a whole at regional, national and even global levels. The inclusion of this programme in the educational offering of the University of Technology in Łódź will set the institution apart from other academic centres (including both Polish and international ones), contributing to the continuous strengthening of its positive image and making it a valuable partner for representatives of the business sector, local government, and other academic centres. It will also provide added value for prospective students, further enhancing the appeal of the Lodz University of Technology as a unique place of study for young enthusiasts of modern management from Poland and

other countries.

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

The educational process within the first-cycle Management programme is in line with the mission of Lodz University of Technology as set out in the University's Strategy for 2025-2030. There is a particularly high level of alignment between this programme and the aforementioned objectives, particularly those relating to the development of a sustainable research university based on modern forms of education and innovations that benefit society at regional, national and global levels. Enabling students on the Management programme to acquire knowledge, skills, experience and social competences of the highest standard will allow both the general and specific objectives set out in relation to the key areas of development of the Lodz University of Technology to be achieved. A complete redefinition of the programme will create the conditions for training managers prepared to take on challenges in today's highly turbulent market environment, equipped with up-to-date knowledge of modern management and the competencies to respond flexibly to change. This is particularly in line with the University's objectives relating to key areas of activity, which include: innovation, a lasting impact on the socio-economic environment, talent development, sustainable development, modern education, internationalisation, and students as active participants in these activities. The first-cycle Management programme will make synchronous use of the latest teaching methods, enabling the active development of talent by discovering and nurturing students' abilities and individual passions, as well as channelling their intellectual potential, including their creative and social potential, for the common good of the TUL community and society as a whole at regional, national and even global levels. The inclusion of this programme in the educational offering of the University of Technology in Łódź will set the institution apart from other academic centres (including both Polish and international ones), contributing to the continuous strengthening of its positive image and making it a valuable partner for representatives of the business sector, local government, and other academic centres. It will also provide added value for prospective students, further enhancing the appeal of the Lodz University of Technology as a unique place of study for young enthusiasts of modern management from Poland and other countries.

Educational objectives and employment and continuing education opportunities

The first-cycle degree programme in Management aims to provide students with systematic theoretical knowledge in the fields of management and quality sciences, as well as disciplines supporting the functioning of modern organisations. The curriculum is designed to prepare graduates to perform operational and analytical tasks in various areas of activity within business and public organisations.

The aim of the programme is to develop managerial competencies appropriate to the operational level of management, including planning activities, organising teamwork, supporting decision-making processes, and controlling basic organisational processes. Students acquire knowledge in the fields of process management, human resources, quality, marketing, corporate finance, and the fundamentals of law and economics.

An important element of the first-cycle programme is the development of practical skills, such as data analysis, identifying organisational problems, preparing simple improvement projects, and using IT tools to support management. The programme also fosters the development of social skills, including communication, teamwork, professional responsibility, and an awareness of the ethical and sustainable aspects of an organisation's operations. These studies also provide a foundation for further education at Master's level.

Graduates of the first-cycle programme in Management are prepared to take up roles supporting management processes. They can find employment in manufacturing and service enterprises, commercial firms, financial institutions, public administration bodies and non-profit organisations.

Typical areas of employment include administration and business process support, human resources, marketing and sales, logistics, quality management, project support and basic organisational analysis. The skills acquired during the programme also enable graduates to start their own business or work in small and medium-sized enterprises.

Completion of the first-cycle degree in Management enables students to continue their education at the second-cycle (Master's) level. At the Faculty of Organisation and Management at the Lodz University of Technology, graduates have the opportunity to continue their studies at the second-cycle level in Management, deepening their theoretical knowledge and developing advanced analytical and managerial skills. The Master's programme is a natural progression for those planning a career in management, as an expert, or in further academic research, and also allows for specialisation in selected areas of management in line with the needs of the labour market.

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

An opinion on the first-cycle degree programme in Management was sought from representatives of the Business Council attached to the Faculty of Organisation and Management at the Lodz University of Technology. Representatives of the business community, acting as key external stakeholders (), assessed the programme based both on their long-standing cooperation with the Faculty and a detailed analysis of the structure and content of the proposed curriculum. The consultations revealed that the Management programme is highly rated in terms of its coherence, relevance and suitability to the needs of the modern labour market.

Entrepreneurs emphasised that graduates of the Management programme stand out for their interdisciplinary training, encompassing knowledge of management, economics, finance and law, as well as the ability to view organisations as complex socio-technical systems. In the opinion of external stakeholders, the competences acquired during the course of study effectively translate into graduates' practical performance within organisations, particularly in the areas of process and project work, data analysis, the preparation of management reports, and the use of digital tools supporting management.

At the same time, representatives of the Business Council highlighted the high level of graduates' soft skills, including the ability to work effectively in a team, communicate in an interdisciplinary environment, and critically analyse organisational problems. Graduates' proactive attitude towards change, willingness to learn, and accountability for their decisions were particularly well received. In the opinion of employers, the study programme in its current form provides a solid foundation for graduates' further professional development and their effective functioning in a dynamic and digital organisational environment.

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

Candidates applying for admission to the first-cycle degree programme in Management should have an aptitude for study in the social and economic sciences and the basic competencies required to undertake a general academic/practical degree programme.

In particular, the applicant is expected to:

- basic mathematical and analytical skills,
- knowledge of a modern foreign language,
- logical thinking and problem-solving skills,
- an interest in the functioning of organisations, the economy and the labour market,
- willingness to study systematically and to work both independently and in a team.

Admission is based on the results of the A-level examination in the subjects specified in the university's admission regulations.

The unit organizing education

Faculty of Organization and Management

Education program

Semester 1

Course	Number of hours	ECTS points	Form of verification	Obligatory
Fundamentals of Management	Tutorials: 30 Lecture: 30	5	Exam	Obligatory
Communication and Teamwork	Tutorials: 30 Lecture: 15	3	Graded assignment	Obligatory
Applied Logic	Lecture: 15	2	Graded assignment	Obligatory
Mathematical Methods in Business	Tutorials: 30 Laboratory classes: 30 Lecture: 15	6	Graded assignment	Obligatory
Fundamentals of Economics and Finance	Tutorials: 30 Lecture: 30	5	Exam	Obligatory
Information Technologies in Management	Laboratory classes: 45 E-learning: 15	5	Graded assignment	Obligatory
Organization of a Manager's Work	Tutorials: 45	4	Graded assignment	Obligatory
Sum	360	30		

Semester 2

Course	Number of hours	ECTS points	Form of verification	Obligatory
Basics of Marketing	Tutorials: 30 Lecture: 30	4	Exam	Obligatory
Organizational Behavior	Tutorials: 30 Lecture: 15	4	Exam	Obligatory
Introduction to Data Analysis	Laboratory classes: 30 Lecture: 15	4	Graded assignment	Obligatory

Course	Number of hours	ECTS points	Form of verification	Obligatory
Digital Tools in the Work of a Manager	Laboratory classes: 45	3	Graded assignment	Obligatory
Basis of Project Management	Laboratory classes: 30 Lecture: 15	4	Graded assignment	Obligatory
Elective Course 1		5	Graded assignment	Obligatory group
The student chooses 1 course from the group				
Designing Sales and Communication Solutions (PBL)	Tutorials: 45	5	Graded assignment	Optional
Design Thinking in Communication and Sales	Tutorials: 45	5	Graded assignment	Optional
Elective Block 2		4	Graded assignment	Obligatory group
The student chooses 1 course from the group				
Ethics	Tutorials: 30 Lecture: 15	4	Graded assignment	Optional
Anthropology	Tutorials: 30 Lecture: 15	4	Graded assignment	Optional
Foreign Language Module 1		2	Graded assignment	Obligatory group
The student chooses one module from the group.				
English B2 module I	Tutorials: 30	2	Graded assignment	Optional
English B2+ module I	Tutorials: 30	2	Graded assignment	Optional
English C1 module I	Tutorials: 30	2	Graded assignment	Optional
German B2 module I	Tutorials: 30	2	Graded assignment	Optional
Physical Education 1	Tutorials: 30	0	Pass	Obligatory
Sum	390	30		

Semester 3

Course	Number of hours	ECTS points	Form of verification	Obligatory
Quality Management	Tutorials: 30 Lecture: 30	4	Exam	Obligatory
Corporate Finance and Accounting	Tutorials: 30 Lecture: 30	5	Exam	Obligatory
Statistics in Management	Laboratory classes: 30 Lecture: 15	4	Exam	Obligatory
Fundamentals of Strategic Management	Tutorials: 15 Lecture: 15	3	Graded assignment	Obligatory
Production and Occupational Safety Management	Tutorials: 30 Lecture: 15	3	Graded assignment	Obligatory
Elective Block 3		5	Graded assignment	Obligatory group
The student chooses 1 course from the group				
Manager' Social Competences	Tutorials: 45 Lecture: 15	5	Graded assignment	Optional
Managerial Competencies Training	Tutorials: 45 Lecture: 15	5	Graded assignment	Optional
Elective Block 4		4	Graded assignment	Obligatory group
The student chooses 1 course from the group				
Labour Law	Tutorials: 15 Lecture: 30	4	Graded assignment	Optional
Economic Law	Tutorials: 15 Lecture: 30	4	Graded assignment	Optional
Foreign Language Module 2		2	Graded assignment	Obligatory group
The student chooses one module from the group.				
English B2 module II	Tutorials: 30	2	Graded assignment	Optional
English B2+ module II	Tutorials: 30	2	Graded assignment	Optional
English C1 module II	Tutorials: 30	2	Graded assignment	Optional

Course	Number of hours	ECTS points	Form of verification	Obligatory
German B2 module II	Tutorials: 30	2	Graded assignment	Optional
Physical Education 2	Tutorials: 30	0	Pass	Obligatory
Sum	405	30		

Semester 4

Course	Number of hours	ECTS points	Form of verification	Obligatory
Human Resource Management	Tutorials: 30 Lecture: 30	4	Exam	Obligatory
Digital Managerial Decision-Making Competences	Tutorials: 15 Laboratory classes: 15	3	Exam	Obligatory
Change Management	Lecture: 30	3	Graded assignment	Obligatory
Management Accounting and Budgeting	Tutorials: 30 Lecture: 30	5	Exam	Obligatory
Operational Controlling and Cost Analysis	Tutorials: 30 Lecture: 15	4	Graded assignment	Obligatory
Elective Block 5		5	Graded assignment	Obligatory group
The student chooses 1 course from the group				
Supply Chain Management	Tutorials: 30 Laboratory classes: 15 Lecture: 15	5	Graded assignment	Optional
Basics of Logistics	Tutorials: 30 Laboratory classes: 15 Lecture: 15	5	Graded assignment	Optional
Elective Block 6		4	Graded assignment	Obligatory group
The student chooses 1 course from the group				

Course	Number of hours	ECTS points	Form of verification	Obligatory
Conflicts in Organizations	Tutorials: 30 Lecture: 15	4	Graded assignment	Optional
Business Negotiations	Tutorials: 30 Lecture: 15	4	Graded assignment	Optional
Foreign Language Module 3		2	Graded assignment	Obligatory group
The student chooses one module from the group.				
English B2 module III	Tutorials: 30	2	Graded assignment	Optional
English B2+ module III	Tutorials: 30	2	Graded assignment	Optional
English C1 module III	Tutorials: 30	2	Graded assignment	Optional
German B2 module III	Tutorials: 30	2	Graded assignment	Optional
Physical Education 3	Tutorials: 30	0	Pass	Obligatory
Sum	390	30		

Semester 5

Course	Number of hours	ECTS points	Form of verification	Obligatory
Process Management	Lecture: 30	3	Graded assignment	Obligatory
Employer Branding	Project work: 30 Lecture: 15	3	Graded assignment	Obligatory
Sustainable Management	Lecture: 30	3	Graded assignment	Obligatory
Research Methodology	Seminar: 15	2	Graded assignment	Obligatory
Management Workshop	Project work: 75 Lecture: 15	7	Graded assignment	Obligatory
Elective Block 7		5	Exam	Obligatory group
The student chooses 1 course from the group				

Course	Number of hours	ECTS points	Form of verification	Obligatory
Artificial Intelligence for Business	Tutorials: 15 Laboratory classes: 30 Lecture: 15	5	Exam	Optional
Digital Transformation of Enterprise	Tutorials: 15 Laboratory classes: 30 Lecture: 15	5	Exam	Optional
Elective Block 8		4	Graded assignment	Obligatory group
The student chooses 1 course from the group				
Creative Problem-Solving Methods in Projects	Project work: 30 Lecture: 15	4	Graded assignment	Optional
Project Manager's Tools and Work Methods	Project work: 30 Lecture: 15	4	Graded assignment	Optional
Foreign Language Module 4		3	Exam	Obligatory group
The student chooses one module from the group.				
English B2 module IV	Tutorials: 30	3	Exam	Optional
English B2+ module IV	Tutorials: 30	3	Exam	Optional
English C1 module IV	Tutorials: 30	3	Exam	Optional
German B2 module IV	Tutorials: 30	3	Exam	Optional
Sum	345	30		

Semester 6

Course	Number of hours	ECTS points	Form of verification	Obligatory
Law and Commercialization of Research Results	Tutorials: 30 Lecture: 15	3	Graded assignment	Obligatory
Internship	Internship: 0	6	Pass	Obligatory
Diploma Seminar	Seminar: 30	2	Graded assignment + exam	Obligatory

Course	Number of hours	ECTS points	Form of verification	Obligatory
Innovative Entrepreneurship	Tutorials: 30 Lecture: 15	2	Graded assignment	Obligatory
Final Project	Diploma Thesis: 0	10	Pass	Obligatory subjects to choose from
Elective Block 9		4	Graded assignment	Obligatory group
The student chooses 1 course from the group				
Management Consulting	Project work: 45 Lecture: 15	4	Graded assignment	Optional
Simulation Games in Business	Project work: 45 Lecture: 15	4	Graded assignment	Optional
Elective Block 10		3	Graded assignment	Obligatory group
The student chooses 1 course from the group				
Environmental Efficiency of Enterprises	Tutorials: 15 Lecture: 30	3	Graded assignment	Optional
Solutions for the Circular Economy	Tutorials: 15 Lecture: 30	3	Graded assignment	Optional
Sum	225	30		