



WORLD CONSTRUCTION CHAMPIONSHIP

Qualification criteria for applicants in the team nomination "Construction Project Management"

COUNTRIES

Russia,
India,
Kazakhstan,
Kyrgyzstan,
Pakistan,
Uzbekistan,
Tajikistan,
Belarus,
Armenia,
Azerbaijan,
Moldova,
Turkmenistan,
China,
South Africa,
Brazil,
Israel,
UAE,
Hungary,
Serbia,
Iran,
Qatar,
Kuwait,
Laos,
Nigeria.

APPLICANTS

Currently employed specialists.

TEAM MEMBERS

1. Project manager;
2. Specialist in scheduling and project planning;
3. Specialist in planning and budgeting of capital investments in construction projects;
4. Project cost estimator;
5. Project cost control specialist.

1. PROJECT MANAGER

GENERAL DESCRIPTION OF THE COMPETENCE

Ensuring effective management of construction projects, meeting planned deadlines, cost, and required quality and safety.

EDUCATION

- Higher education — Bachelor's, Master's or Specialist Degree.
- Applicants without a related degree must complete additional vocational education — a programme of professional retraining in project management.

WORK EXPERIENCE

At least one year of planning the implementation of construction projects.

JOB RESPONSIBILITY REQUIREMENTS (GENERALISED JOB RESPONSIBILITIES)

- Planning the implementation of a construction project;
- Organising the execution of a construction project;
- Monitoring, control and regulation of the progress of a construction project;
- Mobilising a construction project; and
- Preparing an agreement (contract), determining the terms for tendering, and the terms for executing the contract for the construction project.

REQUIREMENTS FOR QUALIFICATION UPGRADE

Recommended: certification in project management in accordance with one or more of:

- National competence requirements for project management professionals;
- PMI standards certification;
- IPMA standards certification;
- AACE standards certification.

KNOWLEDGE REQUIREMENTS

Need to know:

- Principles and methods of performing a project structural analysis in accordance with basic project management methodology;
- Methods of developing and monitoring a schedule to manage the implementation of a capital investment project using specialised software;
- Basic methodology for project time management;
- Principles and methods of general management and project management organisational structure in accordance with basic project management methodology;
- Workplace requirements for the project management team: equipment, software, and space;
- Methods of forming a departmental structure to perform the functions of a developer and technical customer in the implementation of construction projects;
- A resource management methodology required for the implementation of construction projects;
- Methods of calculating and applying marginal and target cost values of construction projects;
- Methodology and procedure for pricing construction works;
- Methods of determining the cost of services provided by engineering companies to the developer (technical customer);
- Quality assurance methods for the construction project;
- Health and safety regulations;
- Environmental control and waste management procedures for the construction project;
- Typical risk management techniques for investment projects;
- Financial risk management techniques;
- Quantitative risk assessment methodology;
- Possible areas of risk mitigation and the extent of their impact on project implementation;
- Methodology for identifying the requirements of construction project stakeholders;
- Software and equipment required to operate a Common Data Environment (CDE) for the implementation of the construction project;
- Scope of design, detailed design, construction, test & commissioning, as-built, and O&M documents, along with other documentation relevant to construction projects;
- The procedure for transportation and customs clearances of equipment and other products into and out of the country of construction;

- The procedure for insuring the supply of transported equipment and other products used in the implementation of the construction project;
- Requirements for the composition and content of concluded supplier agreements (contracts) for materials, labour, and services;
- General procedures for project financing;
- Procedures, regulations, and rules for management of the project team;
- Procedures, regulations, and rules for risk management throughout the project implementation;
- Methods of determining the scope of work and the project schedule;
- Methods of conducting market research and expert assessments;
- Methodology for assessing the economic feasibility and necessity of constructing a building project;
- Requirements for the contents and design of a construction project passport and the procedure for its submission for approval;
- Methods of generating project passports;
- Scope of documentation related to the intermediate results of the implementation phases of the construction project;
- National and local regulations relating to project management;
- Basic project management methodology; and
- Basic methodology for value engineering.

Extras:

- Procedure for schedule and project planning using Oracle Primavera P6 Professional PMIS.

SKILLS REQUIREMENTS

- Perform a structural analysis of the construction project hierarchy;
- Determine the contractor relationships and sequencing of the construction project;
- Determine the timing of the construction project using the available regulatory and archival database;
- Develop aggregated schedules for the construction project;
- Plan the development of detailed and operating schedules for the construction project;
- Choose the most effective organisational structure for managing a construction project;
- Manage interactions between project parties (stakeholders);
- Identify and plan activities to develop the project team;
- Determine the need for resources to implement the project;
- Use a database of previously implemented reference projects;
- Determine the timing of cost estimates for the supply of equipment and materials, construction and installation, commissioning, and start-up work for construction projects;
- Determine the timing of cost estimates for the services of contractors under the construction agreement (contract), as well as for licensing, insurance, transport, and customs clearance work;
- Determine the marginal and target costs of project implementation;
- Develop financial schemes and determine the financing terms for the implementation of the project;
- Prepare, negotiate, and submit the construction project budget for review and approval in accordance with established procedure;
- Identify and quantify possible risks in a construction project;
- Rank the risks arising from the construction project according to their magnitude;
- Identify priority risks that arise during the implementation of a construction project and that require management decisions;
- Develop a risk management programme for a construction project;
- Determine the budget required to implement the risk management programme for delivering the construction project;
- Formulate requirements for the construction project parties (stakeholders) regarding communications, composition and content of information;
- Plan the communication channels between the construction project parties (stakeholders);
- Determine delivery dates for the resources required for the construction project in accordance with work schedules;
- Organise the timing of transportation and storage of equipment and other resources required for the construction project;

- Determine the timing of bidding and contracting for the supply of equipment and other resources, freight forwarding, insurance, and legal support in the country of construction;
- Ensure measures to achieve quality in the implementation of the construction project;
- Supervise the execution of works and the use of equipment and materials with high quality assurance requirements in the implementation of the construction project;
- Supervise the health and safety plans, environmental monitoring, and waste management for the duration of the construction project;
- Conduct staff selection for the construction project team;
- Motivate the project team;
- Introduce software and hardware solutions to create a shared information space for the project, to enable project participants to carry out all necessary actions with project information;
- Form a toolkit for the rapid exchange of information and electronic documents between the construction project participants;
- Prepare tender documentation, organise tenders and bids to select equipment and materials suppliers, select contractors for works and services required to implement of the construction project;
- Prepare agreements (contracts) for the supply of equipment and materials, and performance of the works and services necessary to implement of the construction project;
- Support the tender and working committees in tendering and selecting the suppliers of equipment, materials, work, and services necessary to implement the construction project;
- Coordinate the execution of works to determine any borrowing required to implement the construction project;
- Ensure interaction between the project stakeholders (participants) and company management in order to attract loans for the construction project;
- Determine and justify the need to implement changes to the construction project configuration;
- Determine the additional cost implications associated with changes to the project configuration;
- Determine the impact on the construction project programme related to changes in its configuration;
- Determine the impact of changes made to other functional areas of the project on the construction project programme;
- Analyse information on the progress of the construction project in relation to the planned completion date and forecast the situation on this basis for the coming period;
- Determine changes in the planned work schedule based on forecasts of the situation in the coming period;
- Make corrections to work schedules when implementing a construction project using specialised software;
- Collect and analyse information on the feasibility of delivering equipment and materials for the construction project on time, considering all relevant factors;
- Evaluate and forecast the manufacturing, transport, and storage of equipment and materials for the project;
- Analyse and summarise information on approved change requests affecting the cost of the construction project;
- Analyse and summarise information on the actual costs of the construction project, and identify deviation from the planned budget;
- Analyse the actual cash flow distribution of the construction project and the actual utilisation of the budget limit to determine the current budget and marginal cost of the construction project, taking all changes into account;
- Justify necessary changes to the financing of the construction project and prepare a request for these changes;
- Analyse and summarise information on implemented planned risk events in the implementation of the construction project to assess the risk management programme developed for the construction project;
- Generate a list of risk events not included in the original risk management plan for the construction project;
- Assess the status of the ability to implement measures to mitigate risks in the implementation of the construction project;

- Develop an updated risk register resulting from the implementation of the construction project to supplement the risk management of the construction project;
- Implement the development of an updated construction project risk management programme and incident response strategy;
- Monitor the activities of the delivery team and stakeholders (participants) in the construction project and analyse their interaction;
- Collect and summarise information on the status of the construction project to provide to the management and stakeholders (participants) of the construction project;
- Organise the preparation of reporting documents on the implementation of the construction project — work and services acceptance certificates;
- Carry out market research and prepare proposals justifying the feasibility of launching a construction project;
- Identify and analyse the requirements of the Developer (Customer/Owner) of the construction project in order to formulate the preliminary main objectives and results of the construction project to be initiated;
- Develop an aggregated list of project activities, structured by highlighting milestones in relation to project objectives and ensure that the construction project has a prescriptive schedule;
- Identify the interests of each stakeholder (participant) in the construction project and their opportunities to influence the project;
- Present the main points of the concept (presentation) of the construction project to be initiated in the format established for submission to management for review and approval;
- Analyse the requirements of the construction project Developer (Customer/Owner), compare them with the preliminary characteristics and indicators set out in the construction project concept and, if necessary, make adjustments and additions as required;
- Make any necessary adjustments to the scope of work and milestones of the construction project, as defined in the concept;
- Make any necessary adjustments to the composition of the project stakeholders (participants) as defined in the concept;
- Determine the composition and cost of pre-site works to be carried out on a construction project;
- Prepare a construction project passport and coordinate it for approval in accordance with the established procedure;
- Determine measures to ensure that the design of the project is based on input data, taking into account the requirements of the Developer (Customer/Owner);
- Determine the activities and participants in order to prepare the construction agreement (contract);
- Ensure interaction between the construction project stakeholders (participants) in order to prepare an agreement (contract) for its implementation;
- Analyse and summarise information on the scope of work for the construction project, including work that is already completed and to be completed in order to fulfill contractual obligations;
- Arrange for an up-to-date database and archive of the construction project for use in subsequent projects;
- Collect, compile, and analyse production, technical and financial information for the project;
- Prepare a description of the progress of the construction project, including all issues relating to design, construction, delivery of equipment and materials, personnel training, commissioning, operation;
- Propose suggestions to improve project management processes;
- Prepare a final project report describing construction project management experience for use in subsequent projects; and
- Identify the causes and factors that have influenced the results of the company's participation in tenders.

ADDITIONAL SKILLS REQUIREMENTS (RECOMMENDED)

Proficiency in professional project management software:

Oracle Primavera P6 Professional, CostOS, EcoSYS.

2. SPECIALIST IN SCHEDULING AND PROJECT PLANNING

GENERAL DESCRIPTION OF THE COMPETENCE

Developing and maintaining a system of scheduling and planning for construction projects using innovative technologies for works planning and monitoring.

EDUCATION

Higher education – Bachelor's, Master's or Specialist Degree.

Additional vocational education — professional retraining programmes and career development programmes in their line of work.

WORK EXPERIENCE

At least two years in the field of scheduling and project planning.

JOB RESPONSIBILITY REQUIREMENTS (GENERALISED JOB RESPONSIBILITIES)

- Developing and updating of project schedules in each phase of the construction project cycle;
- Monitoring the execution and management of construction project schedule changes; and
- Analysing of the planned vs actual construction project schedules and reporting in each phase of the project cycle.

KNOWLEDGE REQUIREMENTS

- Fundamentals of project quality, time, and cost management;
- Cost analysis methods for a construction project;
- Fundamentals of architectural and construction planning and design of capital construction projects;
- Project planning and management techniques;
- Supply arrangements in respect of raw materials, supplies, and technical equipment for projects;
- Regulatory and methodological documents on project management;
- Main groups and types of construction work in construction projects;
- Types of main material resources used in implementing the construction project;
- Properties of the material resources used in the construction project;
- Technical characteristics of the main construction machines used in the site construction;
- Project planning documentation and technical regulations governing investment and construction sector activities;
- Standards and best practices in construction project management;
- Project planning documentation in the field of construction project scheduling and planning;
- Regulatory sources and statistical materials for determining the labour, material, and technical resources for the execution of the construction project;
- Rules for maintaining progress and financial records of the construction project's progress;
- Elements of construction project schedules;
- Rules for construction project scheduling;
- Rules and methods for calculating the time, labour, and material resources required for investment and construction projects;
- Rules for calculating the parameters of works in project schedules;
- Cost allocation methods for all phases of the construction project life cycle;
- Rules for the development and approval of cost estimates to be used as a source for determining parameters of works in construction project schedules;
- Mathematical methods for analysing project implementation models in construction;
- Information base for determining the actual cost of work completed and resources consumed in construction projects;
- Methods of segregating responsibilities and ensuring interaction between all functions and participants in the construction project;
- Methods of financial, investment, and economic analysis in the development of construction projects;
- Methods of managing changes in a construction project schedule;
- The extent of resource constraints at each point in time of the construction project;
- Pricing methods in contracts related to capital investment in construction projects;

- Methods for the functional analysis of construction project management systems;
- Factors affecting the sequence and timing of the construction project schedules and programme;
- Categories and types of risk;
- Methods of project risk management;
- Methods of identifying, assessing, and controlling the impact of risks on the construction project;
- Ways of responding to different risks in construction projects;
- Methods of evaluating the performance of capital investments in assets and projects;
- Basic project management methodology;
- Applied software for creating and calculating project schedules;
- Procedure for working with Oracle Primavera schedule planning.

SKILLS REQUIREMENTS

- Estimate resources for construction project work;
- Formulate design decisions with the co-implementers of the project, taking into account the potential impact on the construction project outcome;
- Predict favourable and unfavourable scenarios for the construction project;
- Formulate an initial work plan for the construction project;
- Determine the technological sequence of work in the construction project schedule;
- Highlight the intermediate milestones of the construction project schedule and programme;
- Link the budget to specific works costs of the construction project;
- Analyse initial data to calculate the parameters of the works in the construction project schedule;
- Determine start and finish dates for each activity of the construction project;
- Use tools for scheduling of the construction project;
- Use iterative methods to estimate the duration of the construction project and allocate resources to activities;
- Use regulatory sources and statistical materials to calculate the parameters of works in construction project schedules;
- Develop a hierarchical work structure for an investment and construction project;
- Model the business processes for the execution of an investment and construction project;
- Formulate a schedule for an investment and construction project;
- Choose methods of working on a construction project;
- Coordinate the target project plan at all levels in accordance with the established procedures of the construction project;
- Prepare reports based on construction project schedules;
- Use software packages to build and update construction project schedules;
- Calculate the time parameters of the works in the construction project schedules;
- Analyse the timing and resource requirements of project activities;
- Determine the composition of resources to be used and their allocation to the works and timing of the construction project;
- Develop construction project models based on project scheduling and planning methods;
- Determine the timing and scope of supply for the construction project (taking into account the amount of equipment and materials to be delivered from the fabrication facility and sufficient for performing a certain amount of construction and installation work (Russian terms “technological set” and “installation set”), as well as depending on the number of journeys made by a transport means to transport this sufficient amount of equipment and materials (Russian term “reysovy (journey) set”));
- Plan procurement;
- Check the consistency of the supply plan with the construction project budget;
- Supervise the implementation of project work in terms of timing and procurement;
- Take into account the actual cost of the work done and the resources expended;
- Check information for correctness and compliance with the construction project schedule;
- Analyse and evaluate changes in a construction project;
- Update the work schedule indicators in the construction project;
- Apply software to update network schedules in a construction project;
- Assess the project resource feasibility (availability and cost of the resource);

- Use the estimated time reserves of the project schedule, while taking into account tight deadlines and limited resources of the construction project;
- Determine the most significant performance indicators in the construction project schedule for effective project progress;
- Forecast the future costs of a construction project in terms of works and resources during its life cycle;
- Restructure the scope of work and resources when variations are identified;
- Determine the extent to which uncertainty affects the progress of a construction project;
- Use mathematical and statistical tools to process and analyse construction project data;
- Predict favourable and unfavourable scenarios for the construction project;
- Analyse and assess the risks of work execution in terms of the construction project costs;
- Identify time and cost constraints in the construction project;
- Evaluate the feasibility of changes to the hierarchical structure of the project schedule while developing a construction project; and
- Predict the progress of the construction project by stakeholders on the basis of project schedules.

ADDITIONAL SKILLS REQUIREMENTS (RECOMMENDED)

Proficiency in professional project management software:

Oracle Primavera P6 Professional, CostOS, EcoSYS.

3. SPECIALIST IN PLANNING AND BUDGETING OF CAPITAL INVESTMENTS IN CONSTRUCTION PROJECTS

GENERAL DESCRIPTION OF THE COMPETENCE

Planning, optimisation, monitoring, and control of the use of capital investments in construction projects, project portfolios, and programmes.

EDUCATION

Higher education – Bachelor's, Master's or Specialist Degree.

Applicants without a related degree must complete additional vocational education — a professional retraining programme in their line of work.

WORK EXPERIENCE

At least one year of planning the implementation of construction projects.

JOB RESPONSIBILITY REQUIREMENTS (GENERALISED JOB RESPONSIBILITIES)

- Preparing baseline information and necessary documents for planning and budgeting of capital investments in construction projects
- Developing project plans and budgets, programmes, and construction project portfolios
- Monitoring the current implementation of the budgets of the investment programmes in the field of capital investments in construction projects
- Maintaining up-to-date information on the financial performance of investment projects, project portfolios, and programmes in the area of capital investments in construction projects.

KNOWLEDGE REQUIREMENTS

- National and local regulations and documents governing the planning and budgeting of capital investments in construction projects;
- Regulations for the development of capital investment planning and budgeting documents;
- Types and purpose of construction project budgets;
- Sequence of developing business process budgets;
- Procedure for developing planning and budgeting documents for capital investments in construction projects;

- Local regulations for planning and budgeting of capital investments in projects and construction project portfolios;
- Local regulations affecting the procurement of products, works and services in the development of construction projects;
- Objectives and principles of capital investment planning;
- Composition and content of the design documentation for the project construction;
- Resource allocation methods for a construction project;
- Principles of capital investment planning in site construction;
- Basic methods of determining estimated costs in construction;
- Classification of economic information for budgeting construction projects;
- Indicators for evaluating the effectiveness of capital investments in construction projects;
- Primary and secondary factors affecting changes in the structure of the investment portfolio of construction projects;
- Mathematical and statistical methods for information processing;
- Fundamentals of architectural and construction design and planning of the construction project;
- Fundamentals of accounting for capital investments in construction projects;
- Methods of evaluating capital investments in construction projects;
- Sources of funding and disbursements for the construction project;
- Key parameters for asset planning and control in the development of construction projects;
- Methods of identifying, analysing, and assessing construction project risk;
- Phases of the life cycle of assets;
- Methods of responding to risks in the development of construction projects;
- Risk management techniques for construction projects;
- Methods of analysing the company's financial and economic activities during the project construction;
- Methodologies for identifying variance between planned and actual construction project budget indicators;
- Methods of financing capital investments in construction projects;
- Methods of forming and controlling the budget and portfolios of construction projects;
- Basic project management methodology;
- Basic methodology for value engineering; and
- Software and hardware for the planning and budgeting of capital investments in construction projects.

SKILLS REQUIREMENTS

- Determine types of budgets and establish their classification;
- Formulate the composition of capital investment planning documents for construction projects;
- Receive necessary information from the parties involved in the budgeting of capital investments in construction projects;
- Use computer programmes and reference sources to generate baseline information for planning and budgeting of capital investments in construction projects;
- Find the information needed to address the challenges of planning and budgeting of capital investments in projects and portfolios of construction projects;
- Analyse the information generated for planning and budgeting of capital investments in construction projects;
- Use information and communication technologies in analysing data for planning and budgeting of capital investments in construction projects;
- Justify the use of methods and models for capital investment planning in site construction;
- Develop long-term, medium-term, and short-term planning documents for capital investment programmes in construction projects;
- Forecast investment development in construction projects;
- Analyse the effectiveness of capital investments in construction projects;
- Carry out investment project appraisal with regard to the execution of capital investment programmes in construction projects;
- Perform an analysis of current variations in the execution of capital investment programmes in construction projects;

- Compare the effect of capital investments with their value;
- Process analytical information on construction projects;
- Evaluate the performance of capital investment programmes in construction projects;
- Evaluate the full use of the funds allocated from the budget;
- Monitor budget figures at period end and at the request of the budget holders;
- Identify sources of funding for capital investments in construction projects;
- Determine the extent of reliance on external sources of funding;
- Adjust individual budget figures for construction projects;
- Monitor the risks of assets development, construction projects, taking into account planning models;
- Identify priority risks that require management decisions when developing construction projects;
- Consider the time factor in risk management;
- Determine the costs associated with risk control in construction projects;
- Define the procedure for ensuring accountability in the control and risk management system throughout the project construction;
- Carry out pricing control of contracts related to capital investments in construction projects;
- Maintain registers of contracts for capital investments made with respect to the construction project;
- Identify reasons for deviations from budget targets during construction;
- Carry out profitability assessments as a result of capital investments in construction projects;
- Prepare analytical materials related to capital investments in construction projects;
- Determine deviations from planned construction project indicators;
- Structure and classify the types of changes in construction project budgets;
- Evaluate the extent to which changes affect the project;
- Formulate budget forecasts for construction projects; and
- Use specialised software when designing a construction project.

ADDITIONAL SKILLS REQUIREMENTS (RECOMMENDED)

Proficiency in professional project management software:
Oracle Primavera P6 Professional, CostOS, EcoSYS.

4. PROJECT COST ESTIMATOR

GENERAL DESCRIPTION OF THE COMPETENCE

Estimating construction project costs during all phases of the project life cycle, according to cost estimation methodology.

EDUCATION

Higher education – Bachelor's, Master's or Specialist Degree.

Applicants without a related degree must complete additional vocational education — a professional retraining programme in their line of work.

WORK EXPERIENCE

At least one year of planning the implementation of construction projects.

JOB RESPONSIBILITY REQUIREMENTS (GENERALISED JOB RESPONSIBILITIES)

- Analysing design documents and cost estimates for construction projects;
- Developing a cost model for a construction project according to the project life cycle;
- Pricing in contracts for construction projects.

KNOWLEDGE REQUIREMENTS

- Fundamentals of architectural and construction design of buildings and structures, taking into account the specificities of construction projects;

- Fundamentals of the design of buildings and structures, taking into account the specificities of construction projects;
- Methods for the development, approval, and application of various groups of cost estimating standards in accordance with current estimating standards;
- Fundamentals of construction management, taking into account the specificities of construction projects;
- Fundamentals of construction work planning, taking into account the specificities of construction projects;
- Organisational standards for construction projects in the area of pricing and cost estimation;
- Methods of developing and finalising construction project cost estimates;
- Fundamentals of statistics and project cost accounting;
- Forms of primary accounting documents and the procedure for completing them in relation to the construction project;
- International standards and practices in the pricing and valuation of construction projects;
- Regulations governing investment and construction activities, including pricing, project valuation, and cost control;
- Fundamentals of building design;
- Methods of determining the estimated cost and procedures for verification of the estimated cost of construction projects;
- Methods of identifying the risks of a construction project;
- Methods and techniques for observing cost change trends in construction projects;
- Fundamentals of project and cost management during project construction;
- Methods of monitoring changes in the project budget during project construction;
- Procedures and methods for the formation and consideration of cost risks in construction projects;
- Methods for project budgeting and expenditure in construction with estimates of accuracy at different stages of project construction;
- Methods of identifying, analysing, and assessing project risks, including those affecting project costs during project construction;
- Methods of responding to project risks during project construction;
- Methods of functional, investment, and economic analysis;
- Methods of assessing and optimising the total cost of ownership of assets;
- Methods of assessing and optimising the value of the company's assets;
- Methods of checking the effectiveness of construction projects;
- Methods of developing estimated construction project costs;
- Methods for the development and application of aggregated project costing indicators;
- Methods of price performance monitoring in the project construction;
- Current and forecast indices of change in the estimated cost for the project construction. Deflator indices;
- Methods for implementing changes in the project budgets during project construction;
- Methods of analysis and expert evaluation of cost estimates;
- Methods and techniques for observing cost change trends in construction projects;
- Strategies and methods for developing pricing policies;
- Competitive evaluation methods;
- Fixed (negotiated) prices;
- Methods of determining the contract price;
- Fundamentals of competition law;
- Basic project management methodology;
- Basic methodology for value engineering; and
- Applied software to automate the process of the preparation and verification of cost estimates in the project construction.

SKILLS REQUIREMENTS

- Use technical documents and drawings to determine the amount of work required and to draw up bills of quantity;

- Find and analyse the information required to prepare bills of quantities to be used in the costing of a construction project;
- Apply the normative and methodological documents contained in the Federal Register of Estimates to determine the scope of work of the construction project to be carried out;
- Take into account sectoral and territorial specifics in estimating the costs of construction projects;
- Identify construction project risks;
- Find and analyse information necessary to verify the reliability of construction costing during the project construction;
- Carry out comparative calculations using the information collected for analysis, and assess the suitability of the chosen method for determining the estimated construction project costs;
- Verify the accuracy of the cost estimates for construction projects;
- Apply software products to automate the process of preparing and checking estimates (budget calculations), estimating the cost of construction projects;
- Use technical documentation, drawings, and specifications to gather the information needed for the post-investment analysis;
- Classify and categorise information gathered from designer's supervision for construction projects;
- Identify, analyse, and assess the risks of construction pricing and valuation work during the project construction;
- Carry out a post-investment analysis of the dynamics of the value of the construction project during its implementation;
- Plan measures to reduce the cost risks of the construction project;
- Obtain and present the necessary information in communications with colleagues and companies to carry out post-investment analysis;
- Calculate the value indicators of a construction project: total net benefit, incremental net benefit, discount rate, payback period (discounted), return on investment, net present value of the project, modified internal rate of return of the project;
- Perform variant calculations of the value of a construction project under different scenarios (net accrued benefit, return on investment), verify the calculations performed;
- Evaluate investment plans for construction projects for budgetary efficiency;
- Assess the value of the company's assets;
- Estimate the full cost of ownership of an asset;
- Choose methods and ways of performing professional tasks;
- Assess the possible consequences of decisions made in developing a financial model for construction projects;
- Use information and legal reference systems;
- Find and assess the information needed to determine the individual cost elements, types of work and costs in the estimate documentation in search of an effective cost option;
- Search for aggregated cost indicators in references to assess the value of the construction project;
- Formulate the cost of the project, including by types of work, items and cost elements, using aggregated indicators;
- In the absence of cost estimates for certain types of work, initiate the development of new sector and/or individual cost estimates necessary for the project construction;
- Find, analyse, and evaluate information that meets the established requirements for inputs to the valuation of capital investments;
- Calculate the full cost of the project by item and cost element at the current price level;
- Use scenario conditions in calculating cost estimates;
- Carry out calculations using aggregated standards, including a databank of previously built or designed comparable facilities;
- Generate an evaluation report and memorandum;
- Conduct a comparative analysis of the cost of the project with that of a similar counterpart;
- Analyse changes and updates in the regulations, methodological documents on pricing, estimating, and cost estimating;
- Evaluate the information needed to verify the credibility of construction projects;

- Carry out comparative calculations using the information collected for analysis, and assess the suitability of the chosen method of determining the estimated cost in the project construction;
- Carry out checks on the reliability of the estimated cost of construction projects;
- Apply software products to automate the process of preparing and checking estimates, to assess the cost of capital investments;
- Analyse the pricing policies of potential competitors;
- Analyse electricity markets;
- Identify, analyse, and evaluate project risks;
- Plan and monitor risk management activities;
- Justify the initial (maximum) price of the contract;
- Organise professional activities, determine methods and ways of carrying out tasks, assess their effectiveness and quality;
- Collect and analyse data on legislative, regulatory, and methodological documents used to cost construction projects, record the changes made to them;
- Find, analyse, and evaluate the information necessary to determine the estimated cost of construction and verify the credibility of the costing of construction projects;
- Use information and communication technologies in professional activities to monitor construction resource prices;
- Use software tools to process and analyse information;
- Acquire, store, and record information received; and
- Systematise the information collected, and keep it updated.

ADDITIONAL SKILLS REQUIREMENTS (RECOMMENDED)

Proficiency in professional project management software:
Oracle Primavera P6 Professional, CostOS, EcoSYS.

5. PROJECT COST CONTROL SPECIALIST

GENERAL DESCRIPTION OF THE COMPETENCE

Cost estimating and cost control of construction projects in all phases of the project life cycle using cost estimation methodology.

EDUCATION

Higher education – Bachelor's, Master's or Specialist Degree.

Applicants without a related degree must complete additional vocational education — a professional retraining programme in their line of work.

WORK EXPERIENCE

At least one year of planning the implementation of construction projects.

JOB RESPONSIBILITY REQUIREMENTS (GENERALISED JOB RESPONSIBILITIES)

- Estimating costs (budget) of construction projects;
- Monitoring project budget changes during the life cycle of construction projects;
- Evaluating progress of a construction project.

KNOWLEDGE REQUIREMENTS

- Regulations governing investment and construction activities, including pricing, project valuation, and cost control;
- Construction codes and standards, guidelines, and construction methodology documents;
- Construction resources classifier;
- Maintenance of standards in the Federal Register of Estimates;
- Federal State Information System for Construction Pricing;

- Methods for the development, approval, and application of estimated standards;
- Basics of architectural and construction design, taking into account the specificities of construction projects;
- National construction legislation;
- Design rules and regulations;
- Organisational standards in project construction in the area of pricing, cost estimation, and cost control;
- Methods of estimating costs in construction, including in the construction of a facility;
- Tax legislation in the construction sector, accounting for tax payments when setting the cost of construction projects;
- Methods of developing and drawing up cost estimates for construction projects;
- Methods of the analysis and expert evaluation of cost estimates in the construction project;
- International standards and practices applicable to pricing and cost control in construction, including construction of a facility;
- Fundamentals of statistics and cost accounting for construction projects;
- Methodological documents in the field of pricing, cost estimation, and cost control in the construction project;
- Forms of primary accounting documents and the procedure for completing them in relation to the construction sector;
- Methods of calculating the material, technical, labour, and other resources required for the construction project;
- Methods for project budgeting and expenditure in the construction project with an estimate of accuracy at various stages;
- Methods and techniques for monitoring trends in cost changes during a construction project;
- Methods of monitoring cost indicators during a construction project in order to determine compliance with the planned data;
- Project budgeting methods;
- Methods, tools, and techniques for construction cost control;
- Methods of financial, investment, and economic analysis;
- Project risk identification, analysis, and assessment methods;
- Project risk management and monitoring methods;
- Earned value method;
- Methods for post-investment analysis of projects in terms of project cost dynamics during project construction;
- Methods of assessing project progress;
- Methods of analysing the project content;
- Mathematical and statistical methods for information processing;
- Methods of assessing and optimising the total cost of ownership of assets;
- Methods of assessing the effectiveness of construction projects;
- International standards and practices in pricing, estimating, and valuation of construction projects;
- Fundamentals of project management;
- Fundamentals of investment analysis and business planning;
- Fundamentals of economics and management in construction, engineering, industrial, and transport companies;
- Labour economics, labour, and wage management;
- Fundamentals of project scheduling and planning;
- Basic project management methodology;
- Basic methodology for value engineering;
- Applied software products for automating the process of preparing and checking estimates, as well as cost control;
- Applied software to automate the process of the preparation and verification of cost estimates in the project construction.

SKILLS REQUIREMENTS

- Analyse current regulatory and methodological documents governing the procedure for determining construction project cost estimates to ascertain whether they require any update;
- Evaluate various methods of cost estimating in order to select the optimum method of determining the estimated cost of a construction project;
- Analyse the validity of the initial data for determining the estimated cost of the constructing project, based on a study of information about the facility to be constructed;
- Analyse costs in terms of the work and cost structure during the construction project;
- Analyse the information needed to control project costs during construction;
- Use software products to automate the process of preparing and checking estimates as well as cost control in the project construction;
- Use information and communication technology in professional activities;
- Find, verify and evaluate the information needed to analyse and control the costs of a construction project;
- Analyse cost data and figures on labour, materials, and other direct and indirect costs in the project construction;
- Apply software products to automate the process of preparing and checking construction estimates, and for cost control;
- Analyse the resource and financial feasibility of the project;
- Evaluate and monitor project value indicators with regard to cost dynamics, and use of resources during project implementation;
- Identify, analyse, and assess project risks from a cost perspective;
- Generate indicators to measure the project's performance;
- Apply performance evaluation methods for the various stages of project implementation;
- Report on actuals, variances, utilisation, forecasting, and changes in project content;
- Monitor the project cost indicators during implementation in order to detect deviations from the budget;
- Determine deviations in cost and timing, highlight deviations between the forecast for completion and the budget for completion;
- Identify deviations from the project budget during construction;
- Systematise the information obtained from the ongoing monitoring of the project cost indicators during the construction project;
- Account for and monitor project cost changes within the relevant project life-cycle period;
- Identify, analyse and assess project risks;
- Control the cost of projects when in construction phase under specific contracts in terms of costs, manage risks;
- Develop the action plan necessary to keep the project within the approved limit;
- Control the costs of construction projects;
- Analyse and benchmark controllable costs of construction projects;
- Estimate and compare budgeted and actual project costs for works and resources during the project construction in order to develop forecasts of future costs;
- Monitor trends in the cost of project works and resources in order to calculate the optimum cost for the construction of the project;
- Forecast the future cost of a project when constructing a facility in terms of work and resources during its life cycle;
- Collect and analyse performance indicators characterising the effectiveness of construction projects;
- Evaluate construction investment projects in terms of the effectiveness of the investment;
- Evaluate the economic efficiency of construction projects; and
- Develop and implement measures aimed at optimising the cost of supporting and developing assets.

ADDITIONAL SKILLS REQUIREMENTS (RECOMMENDED)

Proficiency in professional project management software:

Oracle Primavera P6 Professional, CostOS, EcoSYS.