Das Know-how.

REFA Training - Methods of Work Design

Your know-how basis in Industrial Engineering 2017

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CONTENT

1 REFA COURSE

Methods of Work Design

Your know-how basis in Industrial Engineering

The efficiency and the success of a company are decisively determined by the design of processes and work places. This requires the professional determination and application of process data. The seminar Methods of Work Design deals with the following key themes and corresponding tools.

YOUR TOPIC – TARGET GROUPS

- qualified skilled and executive staff, specialists and managers
- master craftsmen and industrial foremen
- technicians
- work councils
- Staff from assembly, production planning and control as well as CIP team leaders and moderators.

YOUR BENEFIT – COMPETENCE

In probably every branch of economic activity the term “process” – understood as operational sequence or procedure –belongs to those keywords which are always linked to challenges. The seminar Methods of Work Design provides you with the necessary knowledge

- how and with which tools processes can be analyzed and based on the results of these analyses
- How you can professionally design even comprehensive processes.

Processes are generally very complex and it takes numerous process data in order to develop and to permanently optimize them. The seminar Methods of Work Design provides you with the necessary practical support and tools:

- to characterize and to determine the manifold data
- To apply the data within the scope of process developments and –optimizations in a targeted and tailor-made manner.
- Special emphasis is placed on getting-to-know selected tools and in particular their use in practical day-to-day application.

DURATION

The course consists of 40 seminar lessons (5 days full-time).

2 COURSE PROGRAM

Methods of Work Design

Your know-how basis in Industrial Engineering

No.	Module Name	Lessons (1 lesson = 45 minutes)
1	REFA Work System - Performance Unit and Process Element	4
2	Principles of Work Design	8
3	Task and Process - Structuring and Design	4
4	Work Data Management – Process and Time Types	16
5	Utilization of Work Data for Cost Calculation	8
	Total lessons	40

3 MODULE FEATURES

3.1 Module 1: REFA Work System – Performance Unit and Process Element

Benefit

- You will be familiar with the functions and classification of work systems as elements of organizations and processes as well as the description and documentation of work systems that can be utilized for work system design and work data determination.
- You will be able to analyze work systems by using the REFA Work System Documentation.

Learning Goals

After completing this module you will be able to:

- explain function and classification of work systems (Understanding of theory and facts)
- explain types and layouts of work systems
- explain the importance and application of the REFA Work System
- allocate work systems systematically

Content

- Terms and correlations
- Work system as model and performance unit
- Work system factors and types
- Description and documentation of work system

3.2 Module 2: Principles of Work Design

Benefit

- You will gain an understanding regarding the importance of work and its effective design as well as the human performance capacity and its utilization.
- You will learn about the effects of workloads and measures that influence these loads, as well as standards, limits and data that can be used for work design. You will also learn about the importance of influencing factors, including relevant dimensions that effect work areas and points of operation. You will also learn how to use these factors in order to improve work situations and conditions.
- You will understand the Principles of Work Design and how they can be applied in practice.

Learning Goals

After completing this module you will be able to:

- explain the necessity and concerns of work design
- explain the requirements, targets and influencing factors of work design using examples
- illustrate the economic and social implications of a badly designed work situation
- recognize and assess the significance of necessary measures to improve the work situation
- utilize work design data problem oriented

Content

- Human Performance within the work system
  - Humane work design
  - human performance capacity
- Work load and work strain
- Influencing and improving work load
  - limits and scientifically validated findings
  - order, cleanliness and occupational safety
  - environmental influences
  - work area and motion range
- Determination of work load – methods, examples

3.3 Module 3: Task and Process – Structuring and Design

Benefit

- You will learn the principles of the REFA Task Description and use it to structure and design tasks and it into context. You will apply methods for the systematic structuring of work processes, utilize the REFA Standard Program Task Design and Process Analysis to optimize tasks and processes.

Learning Goals

After completing this module you will be able to:

- structure, analyze, describe and document tasks
- optimize and design tasks
- come up with different process structures
- systematically analyze and optimize processes

Content

- Introduction, problem statement terms
- task structure, design using an example
- task structuring and analysis using Taxonomy levels ranks and delimits

3.4 Module 4: Work Data Management – Process and Time Types

Benefit

- You will be able to utilize the REFA process and time types as a tool to clearly define a process based on work system, human resources, work objects and information data.
- You will be able to distinguish between value-adding, non-value adding, influenceable and noninfluenceable process steps and know their category.
- You recognize opportunities for process improvement through work design and master the basics of work data acquisition.

Learning Goals

After completing this module you will be able to:

- clearly distinguishing Actual and Target Time and apply methods for their determination
- distinguish the REFA Process and Time Types and know their application
- clearly determine, systematical structure and evaluate the interaction of operators, equipment, work objects, and information data within the work system
- create suitable performance indicators for the evaluation and assessment of work processes

Content

- REFA-Process Types
    - Terms, Correlation
    - Differentiate between work systems, operators, equipment, work pieces, information (flow)
    - Procedure for determining and applying the process types
- REFA Time Types
    - Terms, Correlations, Delimitation
    - Process Time TP, Work System Lead Time TDS, Order time, other Time Types
    - Time data collection

3.5 Module 5: Utilization of Work Data for Cost Calculation

Benefit

- You can explain the importance of cost accounting for the company or operation and will acquire the necessary special knowledge to carry out cost calculations based on work data.

Learning Goals

After completing this module you will be able to:

- explain the fields of application of cost accounting
- define the concept of cost
- explain the relationship between work data and cost using examples
- describe the terms cost types, cost center and cost object using examples
- explain important distinctions between direct and indirect costs, fixed, variable and semi-variable (mixed) costs as well as explain their relationship to work data using examples
- describe the purpose of the Operations Accounting Form (BAB)
- calculate indirect cost surcharges
- explain the difference between quantity unit related cost object and time related cost object accounting
- implement a multi-level surcharge calculation based on the available work data
- critically evaluate the calculated results and identify possible opportunities for cost savings
- perform a simple cost comparison based on the available work data
- critically evaluate the obtained information.

Content

- tasks of cost accounting
- definition of cost terms, establish the link that connects them to work data
- cost types, centers and objects
- direct and indirect costs; fixed, variable and mixed (semi-variable) costs
- structure and tasks of the BAB
- indirect cost surcharges
- quantity unit and time related cost object accounting
- multi-level surcharge calculation
- cost comparison analysis
- critical evaluation and cost savings