**TITLE:** Quality Management Tools

**Teaching/contact time:** 20 hours (2018)

**REFERENCE PARTNER INSTITUTION:** CRE.THI.DEV**.**

1. **Target group**:

* Practitioners of the food chain sector
* Experienced professionals
* Undergraduates
* Master degree students, PhD

1. **Learning outcomes:**

Trainees will be able to:

* Understand the basic principles of quality and quality management
* Understand the principles of Statistical Process Control
* Understand and use in processes the basic quality tools

1. **Minimum knowledge pre-requisites**

**Minimum requirements (knowledge):** Basic knowledge of statistics

1. **Contents**

(take as reference the contents already defined for the teaching materials)

|  | **Sub-topic** | **Contents and/or keywords** | **Teaching material to be prepared \*** | **Partner institution** | **Reference person (availability)** |
| --- | --- | --- | --- | --- | --- |
|  | **Basic Quality Concepts** | Basic Quality Definitions | .ppt | CRETHIDEV |  |
|  |  | History Of Quality Control And Improvement | .ppt |  |  |
|  | **Statistical Quality Control** | Statistics Used In Quality | .ppt |  |  |
|  |  | Statistical Process Control | .ppt |  |  |
|  |  | Acceptance Sampling | .ppt, case examples |  |  |
|  | **The Main Quality Tools** | Check Sheets | .ppt, case examples, group work |  |  |
|  |  | Run Charts |  |  |  |
|  |  | Histograms |  |  |  |
|  |  | Scatter Diagrams |  |  |  |
|  |  | Pareto Charts |  |  |  |
|  |  | Flowcharts |  |  |  |
|  |  | Cause And Effect (Fishbone) Diagrams |  |  |  |
|  |  | Design Of Experiments (DOE) |  |  |  |
|  |  | Control Chart For Variables |  |  |  |
|  |  | Control Charts For Attributes |  |  |  |
|  | **Advanced Quality Tools** | Process Capability (Capability Indices) | .ppt, case examples, group work |  |  |
|  |  | Value Analysis - Value Engineering (VA/VE) |  |  |  |
|  |  | 1. Value Analysis |  |  |  |
|  |  | 1. Value Engineering |  |  |  |
|  |  | Value Stream Mapping (VSM) |  |  |  |
|  |  | Quality Costs |  |  |  |
|  |  | 1. Total Quality Cost |  |  |  |
|  |  | 1. Conformance Cost |  |  |  |
|  |  | * + Prevention Cost |  |  |  |
|  |  | * + Appraisal Cost |  |  |  |
|  |  | 1. Non-Conformance Cost |  |  |  |
|  |  | * + Internal Failure Cost |  |  |  |
|  |  | * + External Failure Cost |  |  |  |

1. **Teaching material available/to be prepared** *(e.g. ppt presentations, case studies, videos, …)*

\*: for some topics/subtopics e-books, posters and videos are already under preparation (WP1).

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| --- | --- | --- | --- | --- | --- |
|  | **Sub-topic** | **Teaching material available (see WP1)\*** | **Teaching material to be prepared** | **Partner institution** | **reference person (availability)** |
|  | **Basic Quality Concepts**   * Basic Quality Definitions * History Of Quality Control And Improvement | e-book | ppt, case examples | e-book: CRETHIDEV, AUA, JFDA, BAU, JUST |  |
|  | **Statistical Quality Control**   * Statistics Used In Quality * Statistical Process Control * Acceptance Sampling | e-book | ppt, case examples | e-book: CRETHIDEV, AUA, JFDA, BAU, JUST |  |
|  | **The Main Quality Tools**   * Check Sheets * Run Charts * Histograms * Scatter Diagrams * Pareto Charts * Flowcharts * Cause And Effect (Fishbone) Diagrams * Design Of Experiments (DOE) * Control Charts for Variables * Control Charts for Attributes | e-book | ppt, case examples | e-book: CRETHIDEV, AUA, JFDA, BAU, JUST |  |
|  | **Advanced Quality Tools**   * Process Capability (Capability Indices) * Value Analysis - Value Engineering (VA/VE) * Value Stream Mapping (VSM) * Quality Costs | e-book | ppt, case examples | e-book: CRETHIDEV, AUA, JFDA, BAU, JUST |  |

1. **Evaluation: self-evaluation**

4 questions for each subtopic will be collected.