**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).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **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.