Milling Technology II Course.

Monday.

Reception at Training Center:
- Explanation of administrative matters / formalities
- Introduction of Buhler Ltd. and visit of Factory, Research Center and Laboratories.

Red thread in milling:
- Profound explanation of requirements from the perspective of the baker.

Wheat:
- Details about wheat, varieties, kernel structure and properties

Cleaning Section Flow Sheet Technology:
- New developments, flow sheets and equipment
- Application of SORTEX in flow sheets

Tuesday.

Cleaning Section Flow Sheet Technology (continued)
- Comparison of various surface treatments: Peeling, pearling, scouring
- Special cleaning solutions to reduce contaminants posing a health hazard like ergot, mycotoxins etc.

Customer Service
- Possibilities and Solutions

Conditioning:
- Tempering equipment, tempering philosophies, construction of conditioning bins to achieve first-in, first-out flow

Social Event with Dinner
Milling Technology II Course.

**Wednesday.** Milling Machines I + II
Design and function of:
- Roller mills
- Plansifter
- Purifier

Bran finisher and detacher Laboratory analysis and their interpretation

Investment Decision
- Aspects to consider when investing in a plant or machines

**Thursday.** Visit of a flour mill

In-depth Mill Flow Sheet Technology
- Flow sheet design for various types of wheat and flour qualities
- Flow sheets with and without purifiers
- Application of 8-Rollermill in flow sheets
- Application examples of detachers, bran finishers, germ recovery systems

**Friday.** Process Control and Automation:
- Study of function and practical work on:
  - Continuous NIR measuring units
  - Various control system options, WinCoS

Weighing and Dosing
- Study of function and practical work on Scale control unit, Scales and Transflowtron

Mill Design
- Introduction to plant design in flour mills

2nd Week
**Monday.**

Cleaning Section Practicals:
- Clean and condition wheat for school mill practicals

Aspiration Technique:
- Explanation of systems and application
- Lay-out and design of an aspiration system
- practical measurements of pressures, calculation of air velocities and volumes
- Working principles of filter and control unit
- Determination of required filter area

Mill Pneumatics:
- Principles, design criteria, adjustments, measurements
Milling Technology II Course.

Tuesday. Practical Work in School Mill:
- Break Release
- Change mill to eight-roller-mill system
- Adjustment of the purification system
- Optimizing sifting efficiency, fighting bare dressing
- Check effects on flour and intermediate stocks with and without the impact detachers
- Cleaning of the entire school mill
- Discussion of results obtained from practical milling

Wednesday. Value Adding Processes
- Hydrothermal and thermal treatment of flour
- Bran and germ stabilization
- Premix plants
- Material handling

Visit: "Swissmill" in Zürich

Thursday. Bakery Innovation Center – Bakery Basics
- Overview of bread production processes
- Quality criteria of main ingredients and additives and their impact on baked goods:
  - Flour, Water, Salt, Yeast, Malt, Soy flour, baking agents
- Dough preparation and baking processes
- Hands on exercise in the bakery

Dinner

Friday. Bakery Innovation Center - Bakery Basics (cont.)

Starch Damage
- Explanation of starch structure, influence of starch damage on water absorption, comparison of methods to achieve starch damage

Contamination in Food
- Dangers and counter measures to avoid customer complaints

Remarks. We reserve the right to adjust the schedule for organizational reasons.

Working hours.
08.00 – 09.30 / 10.00 – 12.00
13.15 – 15.00 / 15.15 – 17.00