

# PROGRAM



## Chocolate Manufacturing: Intense Practical Course - Chocolate & Fillings (Part I and II)

**Date:** 14.07.2025 - 01.08.2025

**Language:** English

**Location:** ZDS Solingen

**Course fee:** 9.430,00 €

**Included services:**

- Refreshments: snacks and drinks
- Lunch and dinner at ZDS refectory
- ZDS-Diploma „Chocolate/Confectionery“



**Your instructor:**

**Guillermo Geschwindner**  
Dipl.-Ing. Food Technology,  
Technical Instructor Sugar  
Confectionery and Chocolate

**Any Questions?**

Please contact our seminar  
department:

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seminar@zds-solingen.de

# WEEK 1

**Monday, July 14, 2025**

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- 09:30     **Welcome**
- 09:45     **Theory: Cocoa**
- Cocoa tree, types and history
  - Harvest, fermentation and drying
  - Quality criteria
- 11:30     **Vertical ball mills for the production of chocolate, spreads, and compounds from dosification to finished products**
- Theory: Cocoa bean processing**
- Cleaning, Roasting (bean, nib, liquor)
  - Breaking, Winnowing
  - Grinding to liquor
  - Cocoa butter and powder
- 13:00     **Lunch**
- 14:00     **Practice: Cocoa bean evaluation and processing**
- Evaluation of different cocoa beans
  - Debacterisation
  - Breaking and winnowing
  - Nib roasting
  - Pre- and fine grinding of Cocoa Nibs
- 17:30     **Final discussion and end of the first day - Dinner**

## Tuesday, July 15, 2025

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- 08:30     **Theory: Raw materials: Cocoa butter, cocoa powder, sugar, milk ingredients, flavor**
- Theory: Manufacturing of chocolate**
- Recipes
  - Manufacturing of chocolate (mixing process, refining process, conching process)
- 10:30     **Theory: Milk ingredients for chocolate and fillings**
- Theory: Manufacturing of chocolate (tbc)**
- Recipes
  - Manufacturing of chocolate (mixing process, refining process, conching process)
- 13:00     **Lunch**
- 14:00     **Practice: Chocolate manufacturing**
- Bühler group - Mixing, refining (5-roll refining), conching - Milk chocolate
  - McIntyre Refiner/Conche - Dark chocolate
  - Netzsch Rumba system - White chocolate
  - Packint - Ball mill - Milk chocolate
- 17:15     **Final discussion and end of the day - Dinner**

## Wednesday, July 16, 2025

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- 08:30     **Practice: Liquification of chocolate and finishing chocolates**
- 09:30     **Theory and practice: Netzsch Rumba system**
- 13:00     **Lunch**
- 14:00     **Practice: Chocolate tempering (manual tempering, seeding method)**
- Practice: Netzsch Rumba system**
- 17:15     **Final discussion and end of the day - Dinner**

## Thursday, July 17, 2025

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- **Company visits** -

## Friday, July 18, 2025

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08:30      **Practical exam of course topics - Part 1**

09:30      **Theory: Moulding technologies**

- Classic shell moulding
- Book moulding
- Cold stamping
- Hollow figures
- One shot depositing

13:00      **Lunch**

**In the afternoon visit Schloss Burg, Solingen**

# WEEK 2

## Monday, July 21, 2025

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- 08:30      **Theory: How to Measure Viscosity and Yield Point of Chocolate**
- 11:00      **Flow properties of chocolate - Practical application**  
**PGPR**
- 13:00      **Lunch**
- 14:00      **Theory: Particle Analysis Technology**
- 15:00      **Practice: Particle Analysis Technology**
- 17:15      **Final discussion and end of the day - dinner**

## Tuesday, July 22, 2025

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- **Company visit** -

## Wednesday, July 23, 2025

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- 08:30      **Theory: Sensorial evaluation of cocoa beans and cocoa mass (part 1)**
- Theory: Crystallisation of cocoa butter**
- Composition of cocoa butter
  - Temperindex
  - Multitherm - Bühler Crystallization Index
  - DSC
- Practice: Crystallization of cocoa butter**
- Temperindex
  - Multitherm - Bühler Crystallization Index

- 13:00      **Lunch**
- 14:00      **Practice: Crystallization of cocoa butter**
- Temperindex
  - Multitherm - Bühler Crystallization Index
- Theory:**  
Fat bloom and sugar bloom
- 17:15      **Final discussion and end of the day - Dinner**

## Thursday, July 24, 2025

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- 08:30      **Theory: Sensorial evaluation of chocolate (part 2)**
- 13:00      **Lunch**
- 14:00      **Practice: Sugar crust liquor**
- With alcohol
  - Without alcohol
- 17:15      **Final discussion and end of the day - Dinner**

## Friday, July 25, 2025

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- 08:30      **Practical exam of course topics - Part 2**
- Theory: Fondant raw mass and fillings**
- Practice: Fondant raw mass production**
- Practice: Fondant**
- Fondant deposited in starch or moulds
  - Fondant as filling
  - Fondant for extrusion
- Theory: Chocolate panning**

**Practice: Fondant**

- Fondant deposited in starch or moulds
- Fondant as filling
- Fondant for extrusion

**Theory: Chocolate panning**

**Theory: Chocolate panning**

- Precoating
- Engrossing
- Smoothing
- Polishing
- Sealing

13:00

**Lunch**

**Departure Solingen - Visit Chocolate Museum in Cologne**

# WEEK 3

## Monday, July 28, 2025

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- 09:00     **Theory: Praliné**
- Practice: Praliné**
- 13:00     **Lunch**
- 14:00     **Practice: Praliné**
- Raw praliné different methods
  - Praliné as filling
  - Laminated praliné
- 17:15     **Final discussion and end of the day - Dinner**

## Tuesday, July 29, 2025

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- 09:00     **Theory: Truffle and ganache**
- Practice: Truffle and ganache**
- Deposited
  - Extruded/piped
  - Cutted
  - Rolled
- 13:00     **Lunch**
- 14:00     **Practice: Truffle and ganache**
- Decorations
- 17:15     **Final discussion and end of the day - Dinner**



## Wednesday, July 30, 2025

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- 09:00     **Practice: Truffle and ganache finishing**
- Powdered, flakes, vermicelli
  - Spiked
  - Enrobed
  - Colored
- 13:00     **Lunch**
- Practice: Fillings and decorations**
- 17:15     **Final discussion and end of the day - Dinner**

## Thursday, July 31, 2025

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- 08:30     **Final exam - written**  
**Theory: Croquant and brittle**
- Practice: Croquant**
- Hard croquant
  - Laminated croquant
  - Brittle
- 13:00     **Lunch**
- 14:00     **Theory: Caramel and liquid fillings**
- 17:15     **Farewell Dinner**

## Friday, August 01, 2025

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- 08:30     **Theory: Pigging Technology**
- 09:30     **Practice: Finishing of all products and packaging**
- 13:00     **Final discussion and End of the course / Optional Lunch**