

Balance Hairspring Manufacturing

Theory and practice of assembling watch regulating organs



SCAN ME

Mastering the design and shaping
the geometry of a metal alloy hairspring



Watchmakers of Switzerland Training and Educational Program
Centre Suisse de formation et de perfectionnement horloger



WOSTEP – WHO ARE WE?

Founded in 1966 and supported by the Swiss watch industry, the Fondation WOSTEP, located in the cradle of watchmaking in Neuchâtel, offers training programs covering several watchmaking professions. As a reference center for watchmaking training and development worldwide, the Fondation WOSTEP transmits unique know-how through cutting-edge teaching. The range of training programs and consulting services offered by WOSTEP are considered quality standards. Employers around the world recognize WOSTEP certification as a proof of technical competence and demonstration of a solid training.

The neutral and independent Fondation WOSTEP is supported by 6 active members who together generate 90% of the turnover of the watch industry in Switzerland. Its ambition is to preserve and promote Swiss know-how abroad. Two pillars of the Foundation are the courses offered in Neuchâtel and the partnership with several schools abroad. The standardization of training programs and evaluation criteria implemented in cooperation with the industry ensures a true Swiss Made on a global scale.

With more than 50 years of experience, WOSTEP manages innovative projects with the close support of its members and donors and positions itself as a real training and skills center of the future.

CERTIFYING TRAINING

The Neuchâtel school offers certifying training in watchmaking and polishing.

The watchmaking programs are run through a phase of Watch Technician, then Customer Service Watchmaker after one year. Finally, Watchmaker is the additional year more specialized in manufacturing which allows to arrive at a panel of knowledge worthy of traditional haute horlogerie. The student develops in-depth and specific skills in tool maintenance, diagnosis with defect identification, maintenance, movement adjustment, complete service, polishing, precision adjustment, micromechanics and watch manufacturing.

The Customer Service Polishing Technician is a program that allows the reconditioning, disassembly and reassembly of watch cases and bracelet components made of various base metals according to their technical and aesthetic characteristics.

These certification programs make it possible to reach a high level in watchmaking and polishing careers with specific opportunities in international haute horlogerie.

Note: Certificates – titles recognized for their practical part by the Convention Patronale de l'Industrie Horlogère Suisse (Swiss Watch Industry Employers Federation) / based on governmental orders of the SEFRI (Secrétariat d'Etat à la Formation, à la Recherche et à l'Innovation (SERI - State Secretariat for-Education, Research and Innovation).

COURS À LA CARTE

To complete our offer, the school hosts multipurpose courses. Practical or theoretical à la carte courses can be developed and implemented on demand. Train the Trainer, Complete Service Standard Operation, Chronometry, Balance Hairspring Manufacturing, Chronograph, Turning, as well as modular and specific polishing courses, such as laser welding refilling, are given regularly.

More details can be found on our website.

COURSE CURRICULUM

Course description

The 2-week WOSTEP *Balance Hairspring Manufacturing* course allows participants to develop practice and knowledge in precision timing and its intricacies. Participants will learn how to perform all actions in order to fit, count and shape a metal alloy hairspring on a standard annular balance wheel.

C06 – WATCHMAKING - BALANCE HAIRSPRING MANUFACTURING



Duration: 2 weeks

Main topics

Assembly

- Regulating organs assembly
- Fitting a new balance staff

Adjustments

- Performing the truing and poising of balance wheels
- Colleting, counting and shaping a metal alloy hairspring
- Using Leroy's formula to align the inner and the outer pinning point of a hairspring
- Adjusting and manipulating the hairspring to match the bridge regulating device

Fine timing

- Performing dynamic poising of the balance assembly
- Achieving COSC chronometry standards

Career opportunities

With the *Balance Hairspring Manufacturing* course participants will develop their skills in counting and shaping metal alloy hairsprings, in order to carry out restoration work as well as set up prototypes. The course will enhance their repair skills and comprehension of mechanical watches.

Requirements and target audience

The *Balance Hairspring Manufacturing* course is open to all participants who have attended a watchmaking school and have a complementary experience in watch repairs.

Watchmakers with no equivalent educational background or training, must have a minimum of 3 years full-time experience in watchmaking.

The participants need to possess the fundamentals skills and experience as performed in the *Chronometry Adjustments* WOSTEP course.

We strongly stress the fact that these requirements are necessary in order to fully benefit from the *Balance Hairspring Manufacturing* WOSTEP course.

TIMETABLE AND PARTICIPANTS

- Monday to Friday: 08:30 – 12:00 / 13:30 – 17:00.
- Maximum 6 participants per session.

LOCATION

Fondation WOSTEP, Rue des Saars 99, 2000 Neuchâtel, Switzerland

REQUIRED MATERIAL

All the equipment, tools and components will be provided by WOSTEP.

MEALS

Meals are not provided and are at the participants cost.

ACCOMMODATION

Participants are required to make their own accommodation arrangements and reservations. A hotel list will be sent to them upon request.

WOSTEP Student Accommodation:

Please note our student accommodation is not available for courses shorter than 3 weeks.

A room in the WOSTEP student apartments can be booked - pending availability - for participants also attending the 1-week Complete Service Standard Operations course and / or the 2-week Chronometry Adjustments course, and staying a minimum **of 3 weeks in a row**.

The cost for a room in the WOSTEP student apartments is CHF 650.- per week.

(Single bedroom with free Wi-Fi. Shared kitchen, bathroom and laundry facilities).

There is no discount on accommodation fees.

COURSE FEE

- **CHF 4'200.-** per person (accommodation and meals not included)
- Note: special rates are available for several of our watchmaking courses if they are attended "in a row", adding up to 3 weeks or more. Please see our current Price List and information provided on our website for further details about these combination options, in this case options 2 to 6.

Other discounts:

- -10% discount for donators
- -75% discount for Partnership teachers
- -25% discount for active members

ATTESTATION

An attestation will be delivered upon completion of the course.

BALANCE HAIRSPRING MANUFACTURING REGISTRATION

Session selection

Please indicate your choice of session date/period*:

**Select from published program/course dates online or enclosed flyer.*

Personal details – please fill in CAPITAL letters

Ms. Mr.

Last name (FAMILY NAME) (s):

First name (Given name) (s):

Employer:.....

Present occupation and responsibilities:

Mailing address

Name / Company name (if applicable):

Street address, n°:

Post office box:

Zip Code - City:

Country:

Home phone:

Work phone:

Mobile phone:

Home e-mail:

Work e-mail:

Invoice address (if different from the above mentioned)

Name / Company name (if applicable):

Contact person:

Street address, n°:

Post office box:

Zip Code – City:

Country:

Which language(s) do you speak?

Please indicate your choice for accommodation

<input type="checkbox"/>	I will stay at a hotel	<input type="checkbox"/> Please send me a hotel list with the confirmation for the course
		<input type="checkbox"/> No hotel list needed
<input type="checkbox"/>	I will not need accommodation	
<input type="checkbox"/>	I am also registering for the 1-week Complete Service Standard Operations course and / or 2-week Chronometry Adjustments course and would like to stay in the student apartments (subject to availability). Length of courses attended: min. 3 weeks. Single bedroom with free Wi-Fi. Shared kitchen, bathroom and laundry facilities. Price: CHF 650.- per week (+ VAT). I have noted 2-week stays cannot be booked.	

EDUCATION AND EXPERIENCE – BALANCE HAIRSPRING MANUFACTURING

Watchmaking education and training:

	Name of school/training institution	Period of time	Hours of training
Watchmaking school			
Apprenticeship			
Training in family business			
Self-taught			

Professional experience (after training):

Name of employer	Full-time	Part-time	Period of time
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	

Repair experience:

Number of years: _____ Mech. watches: _____ % Quartz watches: _____ %
 Watch brand(s) you are most experienced with: _____

WHERE/HOW DID YOU HEAR ABOUT WOSTEP?

- WOSTEP student(s) Employer Advertisement Internet
 Other:

Session selection

Please reconfirm your choice of session date/period*:

**Select from published program/course dates online or enclosed flyer.*

Last name: First name:

Date: Signature:

To register for the course, kindly complete this form and send to wostep@wostep.ch or register directly through our website under www.wostep.ch/training/programs.

