



The Worshipful Company of Clockmakers

Training Opportunities for Clock and Watchmaking

‘A Helping Hand for Students’

You want to become a clock / watchmaker?

Educational Opportunities

This information was first published as one of an extensive series of articles written specifically to provide guidance for students learning to become clock or watchmakers. The series began in 2008 but the information in this article about training has been regularly updated; it is not exhaustive and should be considered as a guide giving brief information about a number of options with links to gain further details. The inclusion of any organisation, course or programme does not imply endorsement by the Clockmakers’ Company; you must satisfy yourself of the quality of each option and decide which is right for you.

For the benefit of both the enthusiast and the prospective student considering a career in clock or watch making, there are two categories of training:

1. Education provided through full and part time courses at colleges, universities and the British Horological Institute.
2. An apprenticeship.

1. Full and Part Time Courses:

a. British Horological Institute:

The British Horological Institute (BHI) is the largest organisation for horologists both professional and non-professional in the UK; it is therefore in a unique position to offer horological education. When formed, in 1858, the primary function was to provide training, an objective which continues today. Associate Membership of the BHI is necessary to access various resources, the Distance Learning Course with or without Tutor Feedback and to attend short courses. There are workshop facilities and residential accommodation at the BHI headquarters, Upton Hall, Upton, Nr Newark Nottinghamshire, NG23 5TE.

As well as managing the accredited examinations for clock and watchmaking, and providing continuing professional development, the BHI offers excellent opportunities for the aspiring horologist to take the first steps towards becoming a clock or watch maker:

- The Distance Learning Course.
- Short practical courses at the BHI headquarters, Upton Hall, Upton, Nr Newark, Nottinghamshire, NG23 5TE.

i. BHI Distance Learning Course (DLC):

For over fifty years, the Distance Learning Course has enabled hundreds of students living anywhere in the UK or overseas to learn clock and watchmaking from a structured course. In the early days of the DLC, the student was frequently an apprentice who gained practical experience during the day and the chance to master background knowledge by studying the DLC. The emphasis was towards knowledge, practical making skills and an understanding of Technical Drawing which formed an essential part of the examinations at that time.

Over the years, the course has been revised to include much new material. Today, there are a limited number of apprenticeships and the DLC has changed to meet the needs of a new generation of students – many cannot easily attend a full-time college course.

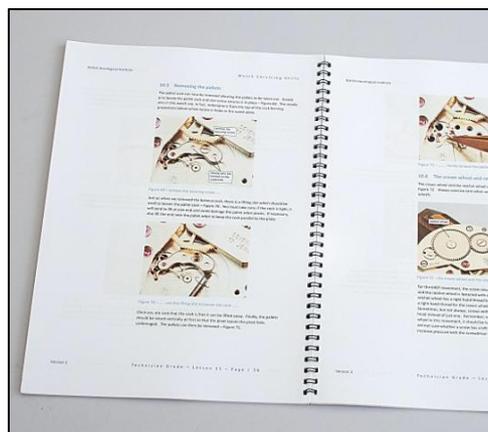
The best approach to begin your studies with the BHI is to purchase the **Technician Grade Distance Learning Course** – Practical Clock and Watch Servicing. This is the first year of a three- year course of instruction. The course has been completely re-written to teach the basic knowledge and skills required when learning the essentials of horology. Step by step, the student learns from a blend of knowledge and understanding, workshop practice and clock and watch servicing skills. This sound foundation prepares the student for further learning.

The content and exercises contained in the Technician Grade Lessons prepare the candidate for the first-year examinations arranged by the Institute for the awarding body EAL (Excellence, Achievement and Learning Ltd.).

The Intermediate and Final Grades are each produced in an A4 ring binder which contain the twelve lessons for each grade. The content and presentation of these grades lacks colour but includes excellent diagrams and clear descriptions. It is priced at a lower figure to reflect the difference in presentation.

The Distance Learning Courses are only available to Institute Members:

The full Technician Grade course costs (2020 prices), £599.00 plus P&P. Tutor Feedback is priced £360.00 for twelve lessons. Tutor feedback may be purchased on a pay as you go basis; the registration fee is £40.00 with a charge of £40.00 per lesson.



The Distance Learning Course is spiral bound.

The Intermediate / Final Grade, without Tuition costs £449.00 for both grades. Tutor feedback costs £100.00 for the combined course but applies only to the theory.

Further details can be found at www.bhi.co.uk or telephone 01636 817604

ii. British Horological Institute 'Short Practical Courses':

A programme of courses is arranged throughout the year at Upton Hall; they are generally two, three or five days duration.

There are also 'taster' courses, the chance to discover the appeal of working with clocks and watches. These can be followed by specialist courses, some of a more general nature to provide an introduction to clock / watch making and others directed towards the student who has some previous knowledge and needs to extend their knowledge and skills.

The courses often supplement the information provided in the Distance Learning Course by providing practical sessions taught by experts. Details of the wide range of courses can be found in the BHI Horological Journal published each month and on the BHI website, www.bhi.co.uk. The fact that some courses quickly become fully booked is testament to the value to the individual.

Three examples of courses will serve to demonstrate the choice available:

The **Servicing Chronographs** course is structured to teach the fundamental skills required to service mechanical chronograph movements; it is by nature, an advanced course. Students are required to have shown some experience by attending courses to learn about servicing manual winding mechanical watches and day / date automatic watches. The Chronograph course is therefore directed towards the more advanced student who has already gained basic skills; students are provided with chronograph movements and the Tutor demonstrates to the group with the aid of a digital microscope which produces large images so the processes to be seen in detail.

The student will usually progress from basic courses such as Quartz Watch Servicing to the more complex manual winding, automatic watches and chronographs.



Figure 1 - The BHI Chronograph Course



Figure 2 - A Watch Servicing Course

The **Basic Clock Part I** course is suitable for the newcomer as well as the student with some experience. The syllabus includes fundamental knowledge about clocks and servicing skills; students bring their own clocks. A balance of group and individual tuition extends each student's achievement enabling them to undertake procedures requiring greater knowledge and understanding.

Some courses such as **Cylinder Escapements** teach highly specialised techniques for the student intending to focus on clock or watch restoration. The Tutor has considerable experience gained by restoring watches for the collector; the students benefit from personal attention and group teaching to master techniques essential for the watch restorer.

The maximum number of students that can be accommodated in the clock or the watch workshop is six; students can choose a range of courses to support and extend the knowledge and exercises they are learning from the BHI Distance Learning Course.

How much does it cost?

The courses are priced both with and without accommodation and breakfast:

Number of days	Including B & B	Excluding B & B
5 days	£930	£750
3 days	£540	£450
2 days	£345	£300
1 day		£150

Further details from www.bhi.co.uk or telephone 01636 817603.

iii. Brief information about 'BHI' qualifications:

The British Horological Institute introduced new 'Diploma' examinations in 2012. Candidates in the UK attend Upton Hall, the examination centre, for some units and undertake specified exercises to make Practical Test Pieces and Service Clocks / Watches using their own workshop or that of a college / university. The examinations are arranged for May – June each year.

Overseas candidates may complete some units in their country of residence but attend UK examination centres for the final examinations.

There are three 'Diploma' qualifications:

- Diploma in Clock and Watch Servicing (Level 3)
- Diploma in the Servicing and Repair of Clocks / Watches (Level 4)
- Diploma in the Repair, Restoration and Conservation of Clocks / Watches (Level 5)

The Diploma qualifications are Ofqual accredited by the awarding body EAL (Excellence Learning and Achievement Ltd) as part of the Qualifications and Credit Framework. The Institute worked closely with industry and EAL to prepare these awards which reflect the current employment requirements within clock and watch servicing and restoration.

Professional Membership of the Institute:

- The candidate who gains the Diploma in the Servicing and Repair of Clocks meets the technical competence and horological experience requirements for becoming MBHI.
- The Diploma in the Repair, Restoration and Conservation of Clocks / Watches has met the technical competence and horological experience to become FBHI.
- Full information about the Institute examinations and membership can be found at www.bhi.co.uk

If you are considering becoming a professional clock or watch maker, the benefits of attending a full-time course should be carefully considered. Brief information will be provided for each of the three colleges, but prospective students should use the contact details to gain full information prior to visiting and considering an application

b. Birmingham City University:

Birmingham City University includes a department for horology at the School of Jewellery in the heart of Birmingham's Jewellery Quarter. The department can accommodate up to fifteen students per year for three years using two well equipped workshops and the wider resources within the School of Jewellery. The main workshop is used by most students for both clock and watch servicing and the making of components; a smaller workshop is used for watch servicing.



Figure 3 - The workshop at Birmingham City University

Additional accommodation within the School of Jewellery is used for teaching the theory of horology and technical drawing.

An engineering workshop is a valuable resource shared with other departments, as are the specialist casting, electroplating, forming, CAD and rapid prototyping facilities.

The BA Hons Horology Degree:

There is a range of studies at Birmingham City University to prepare students for professional practice within the broad spectrum of horology. The core values are employability and student experience and the curriculum has been designed to develop the traditional skills associated with clock and watchmaking whilst encouraging the exploration and use of developing technologies to meet modern standards.

Students will design and make a final year 'Masterpiece', a significant horological mechanism that will showcase the combined workshop and employability skills of the individual.

How much does it cost?

Tuition fees are in line with graduate courses nationally with student loans generally available to help finance the three-year attendance. Further details can be found at:

<http://www.bcu.ac.uk/courses/horology-ba-hons-2018-19> or contact the Head of Horology at Jeremy.hobbins@bcu.ac.uk



Figure 4 - A Student 'Masterpiece'

c. The British School of Watchmaking:

In 2006, a group of companies was formed to finance the purchasing of equipment and the provision of teaching staff to offer a two-year, 3,000-hour course on watch servicing and micro mechanics at premises near Manchester. An 1800-hour course has subsequently been introduced to focus on watch servicing.

There are eight students in each group giving an excellent staff to student ratio; staff periodically attend courses in Switzerland. The teaching facilities include well equipped workshops and training materials provided by the Swiss watch industry. Sponsored students are employed and funded by the company concerned; private students finance their attendance independently.

The British School of Watchmaking offers the WOSTEP '3,000-hour' course and from 2018 the '1800-hour' course.

The 1800-hour course offers training to enable the student to proficiently service quartz and mechanical watches including automatic watches. It does not include skills to make components such as a stem or a balance staff.



Figure 5 - Learning watch servicing at the British School of Watchmaking



Figure 6 - Turning a balance staff

The 3,000-hour course include work on chronographs and the skills to make small components for watches; all students practise making stems and balance staffs.

How much does it cost to attend the British School of Watchmaking?

The 3,000-hour course:

Course fees, £9,000 per year, students must purchase a complete tool kit prices at £2,110 (prices may vary according to exchange rates and changes in contents).

Total cost £20,110

The 1,800-hour course:

Course fees, £9,000 per year, students must purchase a complete tool kit prices at £2,110 (prices may vary according to exchange rates and changes in contents).

Total cost £11,110

Financial assistance may be available for private students from the George Daniels Educational Trust.

Further details can be found at www.britishschoolofwatchmaking.co.uk

d. West Dean College:

For many years, the Edward James Foundation has been providing a range of specialist full time conservation courses at West Dean College, Sussex. These include the Historic Craft Practices (clocks), the Graduate Diploma Conservation Studies and the MA Conservation Studies.

Students use the well-equipped workshop and the full facilities of the college for their studies; historic clocks are provided for bench practice.

Most students are resident at the college and may use the college facilities during evenings and weekends. A total of around eight 'clock' students enroll each year with students working together to follow the range of courses in the clock workshop. The courses are validated by Sussex University.

FdA Historic Craft Practices: a two academic year practical course which equips students for a career in clock making, restoration and conservation.

Graduate Diploma, Conservation Studies (Clocks and Related Objects): the one academic year programme provides a context for the analysis, assessment and treatment of historic objects. Students learn professional standards of conservation practice as they develop practical and theoretical conservation skills.

MA Conservation Studies (Clocks and Related Objects): the one calendar year programme has an international profile for conservation of clocks and dynamic objects and provides an



Figure 7 - West Dean College

historical and cultural context for the analysis, assessment and treatment of historic objects.

Professional Development Diploma in Horology: the one academic year course provides a year of study; the content being negotiated with the Tutor. It is an opportunity to build on previous skills for either a specific project, a set of advanced skills or a research project.

How much does it cost to attend West Dean College? Details and the cost of the various courses and opportunities for financial assistance can be found at www.westdean.org.uk



Figure 8 - West Dean College - Clock Workshop

e. **Epping Forest Horology Centre:**

Epping Forest Horology Centre (EFHC) describes itself as an “organisation dedicated to the preservation of Horological skills through practical and theoretical teaching in a sociable atmosphere”.

The centre was first formed in 2005 as a club and has grown to over 100 members and provides a very affordable entry route for new clock and watchmakers, as well as being a place for the more experienced to meet like-minded folk and develop their skills.

Located in West Essex, the Centre has two well equipped workshops for watch and clock making each having twelve benches; There is also a large machine shop, a library and lecture facilities.

People joining EFHC range in age from 18 years to over 80 years; a number are from the trade, but most are dedicated enthusiasts, some of whom use the skills they learn as a stepping-stone into the industry.

A regular team of five tutors provides afternoon and evening sessions for forty weeks each year along with occasional special short courses for subjects like Silver Soldering, Dial Restoration, and Turning Using a Watchmakers Lathe.

Sessions are available offering both structured teaching and informal support to suit all types of learning styles.



Figure 9 - The Watch Workshop at Epping Forest Horology Centre



Figure 10 - The Clock Workshop at Epping Forest Horology Centre

How much does it cost to attend Epping Forest Horology Centre?

An initial joining fee of £60 enables the member to subscribe to the activities of the club.

There is a payment for 40 weekly sessions per year. The schedule and current prices are available from the membership secretary.

Further details can be found at: www.efhc.org.uk

f. A Note Concerning the Funding of Full Time Courses:

The opportunity to attend a full-time horology course is often dependent on the ability to finance the fees and accommodation. The situation varies widely between each of the three colleges:

- **Birmingham City University**, a student who has not attended university previously is likely to be able to access a student loan to assist with the cost of accommodation, books and materials required during the three years.

Repayment of tuition fees will commence when the course is completed and income becomes over £25,725 per annum, for the academic year 2020/21. Many students use savings and seek part time employment to help fund their period at college.

A student who has attended university previously will normally be wholly responsible for the cost.

- **West Dean College:**

The student is expected to meet the cost of tuition and, if resident, accommodation.

Staff at West Dean College offer guidance to help students access bursaries from charitable funds managed by the College. The Edward James Foundation and other charities, such as The George Daniels Educational Trust, frequently assist students by paying part of the cost of tuition. Students usually find it necessary to provide a portion of the funding from savings or a loan.

- **The British School of Watchmaking:**

‘Private’ students are entirely responsible for the cost of tuition and accommodation. The George Daniels Educational Trust can assist private students.

2. Apprenticeships:

Apprenticeships provide ‘on the job’ training, the apprentice learns how to service clocks or watches while employed and earning money in a workplace. There are two types of apprenticeships:

- a. Government funded apprenticeships
- b. Informal apprenticeships

a. Government funded apprenticeships

'Trailblazer' apprenticeships were introduced in the UK in 2013. A Trailblazer group of employers from the employment sector is established to determine the content of the apprenticeship (the Standard) and a detailed document giving the performance criteria prescribing the achievement required for successful completion of the apprenticeship (the Assessment Plan). This process is directed by the Institute for Apprenticeships. A Funding Band is set giving the maximum payment permissible to deliver the apprenticeship. The delivery is managed by a Training Provider registered on the Register of Apprentice Training Providers. A fundamental aspect of Trailblazer apprenticeships is the End-point Assessment; instead of evaluation throughout the learning process, achievement is assessed when learning is complete during the End-point Assessment. Training Providers are frequently further education colleges lacking specialist expertise to deliver apprenticeships for niche areas of employment. The Training Provider manages delivery by subcontracting the actual teaching to a registered Supplementary Provider with the necessary knowledge and workshop facilities.

- **Watchmaker Apprenticeship**

The watchmaker apprenticeship was launched in January 2020; details can be viewed on the Institute of Apprenticeships website.

<https://www.instituteforapprenticeships.org/apprenticeship-standards/watchmaker/>

The apprentice begins with 'part jobs' and progresses to learn to service a range of watches from quartz to automatic watches and case refurbishment. There are fourteen one-week block release sessions during the two-year apprenticeship; underpinning knowledge is taught on-line throughout the apprenticeship. The Funding Band is £27,000; companies paying the apprenticeship levy will make payments from their digital account, smaller businesses are required to pay 5% of the Funding Band (£1,350) for the two year apprenticeship.



Figure 11 - An apprentice learns to adjust watches

Block release training is provided at the Watchmaker Apprentice

Training School (WATS), a new, well equipped training workshop at Swiss Time Services, Hockley, Essex. For further information, contact

enquiries@watchmakertraining.com

- **Clockmaker Apprenticeship**

The development of the clockmaker apprenticeship is complete, but delivery cannot commence until a suitable End-point Assessment Organisation has given 'in principle' commitment to deliver assessment for the clockmaker standard. It is a

two-year apprenticeship with the Funding Band £21,000. Details can be viewed on the Institute of Apprenticeships website.

<https://www.instituteforapprenticeships.org/apprenticeship-standards/clock-maker/>

b. Informal Apprenticeships

The benefit of the Trailblazer Apprenticeship is guaranteed because of the structure; there is the Standard and Assessment Plan which specify the skills and underpinning knowledge which will be taught. The delivery is monitored by OFSTED and there is strict quality control for the assessment. In contrast, an informal apprenticeship lacks these safeguards. That does not mean an apprenticeship arranged directly with the proprietor of a clock / watchmaking business will not provide quality learning and enable the skills and knowledge to be mastered. One approach is to incorporate the BHI Distance Learning Course and examinations into the workload and expectations of the apprenticeship; an employer may be prepared to consider such an arrangement.