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“Adaptation of learning methods of the Italian model and training design- CVET”

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1. INTRODUCTION

As an initial training strategy, we opted for the adaptation of the learning model of the Calzaturiero Polytechnic (Italy) to the I-VET training existing in the region, by creating a specialized training that would include the adaptation of a large part of the contents of the Italian model.

Currently, I-VET training in the Region of Murcia has too long (about 2000 hours) and excessively theoretical training cycles, and whose management entities do not allow a readaptation of its contents and structure in an agile way due to its lack of regulatory flexibility and his tedious consultation procedures. All this, added to the conclusions obtained from the analysis carried out on the requirements both the companies of the sector, as of the candidates for employment, give rise to the realization of a change in the strategy initially established, opting at this moment for the C-VET training, that contemplates the SEF (Spanish Employment and Training Service), with specialized courses in concrete matters, of short duration (around 400 hours) and with an important practical content, which adapt better to the demanded by the sector.

The existing options in C-VET training are not adapted to the requirements of the sector, so we have opted for the creation of new specialties and / or certificates, prioritizing these for the needs of the footwear sector and adapting specific modules of the plan of formation of the Calzaturiero Polytechnic model to each one of the different formative actions to develop.

After the survey carried out to the companies of the sector, the result is an important demand in the jobs dedicated to:

- Stitching
- Cutting and pattern making.
- Mounting and finishing of footwear.

In October 2017, the new "Stitching" training specialty was requested to the SEF (Spanish Employment and Training Service), having previously completed the entire training program, teaching materials, student and faculty requirements, etc., following indications of the Calzaturiero Polytechnic.

Once the new specialty of Stitching has been accepted by the SEF, in April 2018 the first training module will start as a pilot experience, in order to know the real functioning of this type of training, the acceptance by students and companies of the sector, the problems arising during its development and improvement actions to be carried out for future courses of this specialty or in the request of new specialties or certificates to the SEF.

During 2019 the request of two new specialties "Cutting and pattern making" and " Mounting and finishing of footwear " will be made to the SEF, during the same year will begin the delivery of these courses.

2. PROCEDURE FOR TRAINING FOR EMPLOYMENT REQUEST TO SEF (SPANISH EMPLOYMENT AND TRAINING SERVICE)

In order to effectively carry out the implementation of this training model for employment in the sector, a procedure has been established to create new specialties and, on the other hand, a standard procedure for requesting training courses related to each of the new specialties. .

The purpose of this procedure is to define the methodology of activities to be developed in order to carry out the application of the new specialties to the SEF:

1. Application for new specialty to the SEF:
 - a. Complete Annex IV
 - b. Presentation of Annex IV through a single window to the SEF.
 - c. SEF requests through this Annex IV to the SEPE (State Public Service of Employment) the accreditation of the new training specialty.
 - d. If any clarification or presentation of other documentation is requested by the SEPE to the SEF for the certification of the specialty, the SEF informs the applicant.
2. Approval of the new specialty: Once the SEPE verifies that everything is correct, it proceeds to the certification of the new specialty and this is communicated to the SEF, which in turn communicates it to the applicant.

To apply for a training course associated with a specialty, the following instructions must be followed:

1. Homologation of training institution: Request the SEF electronically through its electronic office and the procedure 0460 "Accreditation and registration of training entities" accreditation as a training entity.
2. Homologation of Classrooms: (Only in case of a new classroom). Apply electronically to the SEF through its electronic office and the procedure 0460 "Accreditation and registration of training entities" accreditation of the training room. It is necessary to attach the form "Application for registration or modification of training centers".
3. Certification of the teaching staff: Application to the SEF through its electronic office and the procedure 1609 - "Electronic submission of applications, writings and communications" the accreditation of the teaching staff. It is necessary to attach the supporting documentation that justifies compliance with the minimum requirements of the teaching staff..
4. Application for training course: Application to the SEF through its electronic office and the procedure 1609 - "Electronic submission of applications, writings and communications" the accreditation of the teaching staff..
5. Approval of the course by the SEF: The SEF communicates to the training entity the concession of the course through a certified communication.
6. Planning of the course: The Training Entities complete the following documents and present through the electronic office of the SEF procedure 1152 "Follow-up of training initiatives".
 - Educational Planning (Annex III)
 - Didactic Programming (Annex E4)
 - Planning the evaluation (Annex E5b)

At the same time, through GEFE (Computer System of Training Records Management for Employment) accessed at the address [https://www.sefcarm.es/web/pagina?IDCONTENIDO=30480&IDTIPO=100&RASTRO=c\\$m30084.3162_6](https://www.sefcarm.es/web/pagina?IDCONTENIDO=30480&IDTIPO=100&RASTRO=c$m30084.3162_6) and together with the electronic certificate of the training entity, in accordance with current regulations, the following information must be provided:

- Planning of the formative action of dates, holidays, vacations, etc. ("General" section)
 - Establish schedule of the training action ("General" Section)
 - Assign domicile and / or training centers of the training action (Section "General")
 - Present list of candidate teachers / tutors (Section "Teachers")
 - Complete the teacher / tutor sheet (Section "Teachers")
 - Communication of the student selection process (Section "Action")
 - Communicate list of candidate students (Section "Students")
 - Attach accident and civil liability insurance (Section "Insurance and practices")
 - Make the application for enrollment of the student (Section "Students")
 - Present the certification of initiation with the students who initiate the formative action (Section "Students")
 - Print the development guide of the training action that contains all the information indicated above so that it is accessible to the students in the classroom. (Section "Action")
 - Establish assessment tools for students that will be used in the course. (Section "Evaluation")
7. Follow-up: Through GEFE (Computing System of Training Records for Employment) accessed through the [address https://www.sefcarm.es/web/pagina?IDCONTENIDO=30480&IDTIPO=100&RASTRO=c\\$m30084,31626](https://www.sefcarm.es/web/pagina?IDCONTENIDO=30480&IDTIPO=100&RASTRO=c$m30084,31626) and together with the electronic certificate of the training entity, in accordance with current regulations, the course must be followed up with the following tasks:
- Assist Control. (Section "Students", it is necessary to print the weekly attendance parts for students to sign their entry and exit to the course)
 - In your case, communication of cancel / new additions of students. (Section "Students")
 - Application for authorization to continue with the training action if, as a consequence of the students' withdrawals, the training activity is reduced to less than 50% of the students awarded (only mode 2)
 - Presentation of the certification of completion of the formative action, once the theoretical-practical part has been finished in the classroom indicating the students who have completed it. ("General" section)
 - Evaluation of the students' performance in the course through the assessment tools previously established (Section "Evaluation").
8. Teaching of the theoretical-practical course in the classroom: Following the planning of the course established in the previous step, it is carried out by the teachers in the theoretical-practical classroom designated for that purpose. Teachers must keep track of student attendance in the printed form through the GEFE application in the "Students" section.
9. Management of internships in companies: Once the theoretical-practical part of the training room has been completed, the students are authorized by the SEF to carry out the internships in the company.

The following procedure must be followed through the "Insurance and Practices" section of the GEFE application:

- I. Application for authorization to companies to carry out the practices: The Practices Agreement and Annex E8 "Training program of practices" will be presented through the GEFE application
- II. Once authorized, the certification of the start of practices will be presented, assigning each student the corresponding company.
- III. The companies will be given the attendance part that the student must sign each day.
- IV. Once the practices are completed, the end of practices certification is presented, indicating the students who have done them, through the GEFE section "Practices and insurance".

10. Evaluation: The teaching-learning process will be carried out through a combination of different methods and instruments, including, among others, the evaluation of works, activities and tests carried out during said training process, taking into account what is established in the planning of the evaluation. Once the training action has been completed, it is necessary to submit electronically to the SEF through its electronic office and the procedure 1152 "Monitoring of training initiatives" the following documentation:
- ANNEX E6b- Individualized evaluation report.
 - ANNEX E7b- Evaluation report
 - CERTIFICATE REALIZATION PROFESSIONAL PRACTICES

The technical instruction 101051-Instruction Evaluation shows the procedure to complete the indicated documents and perform a correct evaluation process.

11. Certification of the course.

After carrying out all the tasks indicated above, the follow-up technician assigned to the training action by the SEF will make a face-to-face visit in which the following documentation will be reviewed:

- Educational Planning (Annex III)
- Didactic Programming (Annex E4)
- Planning the evaluation (Annex E5b)
- ANNEX E6b- Individualized evaluation report.
- ANNEX E7b- Evaluation report.
- Practice Agreement.
- Annex E8 "Training program of practices"
- Signed and sealed development guide
- Cut out in advertising press of the training action
- Applications for student registration
- Exams performed
- Signed assistance checks.

After the review of all the necessary documentation in a face-to-face visit, the course follow-up technician terminates the training action.

3. TRAINING PROGRAMS

3.1 STITCHING PROGRAM

Calzaturiero Polytechnic has a training course in its training catalogue that contains the following training plan:

FOOTWEAR OPERATOR – STITCHING/SEWING

PROFESSIONAL PROFILE:

In the context of the shoe production, the materials must be processed to obtain aesthetic quality preview. Pre-stitching consists in improving the edges, reinforcing some materials, skiving them to ease their use, colouring the slices and the visible edges, perforating and fitting accessories.

In the case of footwear, the product must be aesthetical in all its aspects. Stitching is no exception. Which type of needle is necessary for which type of stitches? What number of stitches is necessary per cm?

The assembling or decorative stitching mustn't show any style or quality breach in any case. The fault is not allowed in leatherwork, everything can be seen.

The search of perfection will include the thread position on the edge of the parts, the position of the end of stitching points, the relation between the hole of the needle and the thread diameter, the distribution of the stitches at the end of the stitching marks.

AIMS OF THE COURSE:

The preparation and stitching course aims to provide the basic skills to prepare and assemble the parts of the upper and lining of the main shoe models.

At the end of the training course, the student will be able to:

- know the main models of footwear products and the functionalities of the different parts;
- analyse the characteristics and performance of the main materials used;
- recognize the processes that characterize the design and production of a shoe and, in particular, the preparation and stitching phase;
- choose reinforcements, thread and glues suitable for different processes;
- know how to use materials and machines for preparation and stitching;
- carry out the main preparation and stitching operations.

ACTIVITIES – DESCRIPTION OF THE PROFILE

Pre-stitching: To perform pre-stitching operations in footwear models, using adequate tools and techniques.

- 1) To do manually/mechanically all pre-stitching operations, namely skiving, folding, splitting, marking, punching, printing, perforating, embossing, cementing the pieces to be stitched, crimping, according to the specifications of the technical information about the model.

<p>Knowledge</p>	<p>Raw materials characteristics and behaviours upon process variables (temperature, humidity, press, stress, etc.)</p> <p>Subsidiaries products technology (adhesives, and others...)</p> <p>Notions about the general process and technology in footwear manufacturing</p> <p>Footwear pre-stitching equipment and tools: type, set up/regulation and maintenance</p> <p>Footwear pre-stitching techniques</p> <p>Types of glue, and attacking/Cemented technology</p> <p>To know how to read skiving and stitching lists</p> <p>Quality control procedures and standards</p> <p>Principles of HSW</p>
	<p>To be able to interpret images and technical information about different models of footwear.</p> <p>To be able to perform pre-stitching operations, namely skiving, folding, splitting, marking, punching, printing, perforating, embossing, cementing the pieces to be stitched, crimping, using adequate equipment and according to the technical information.</p> <p>To be able to insert the buckles and other accessories as eyelets (it can be done also in finishing).</p> <p>To perform equipment and tools' set up, regulations, cleaning/conservation and maintenance</p> <p>To be able to check the pieces against specifications and quality requirements.</p> <p>To be able to recognize and to put into practice principles of quality and HSW that can be applied to correspondent operations</p> <p>To be able to glue and assemble the parts together respecting the position marks as well as the pulling over</p>

<p>Skills/competences</p>	<p>To be able to find the marks according to the given gauges</p> <p>To control the parts (right/left foot, peering, etc.)</p> <p>To be able to follow the instructions, measures and margins scheduled during the pattern making</p> <p>To be able to respect the original lines, their slots and checkmarks</p> <p>To be able to tint properly and correctly after having prepared the tinting according either to the request of the stylist or to the colour of the material</p> <p>To be able to realise and position decorative accessories (flowers, piping's, tassels, covered buttons, etc.)</p> <p>To be able to apply accessories which are means of fastening, zips, buckles, hooks, eyelets, etc.</p>
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- 2) To apply different manual and handcrafted techniques used for the manufacture of shoes such as embroidery, engraving, embossing, ageing, placing of decorative flowers, bows, ribbons, according to the specifications of the technical information about the high-end/luxury footwear model

<p>Knowledge</p>	<p>To know the different/innovative, manual, handcraft upgrades, and their application techniques to the high-end footwear models</p> <p>Quality control procedures and standards</p>
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Skills/ competence s	<p>To be able to interpret images and technical information about different models of footwear.</p> <p>To be able to perform pre-stitching operations, namely embroidery, engraving, embossing, ageing, placing of decorative flowers, bows, ribbons, using adequate equipment and according to the technical information.</p> <p>To perform equipment and tools set up, regulations, cleaning/conservation and maintenance.</p> <p>To be able to check the pieces against specifications and quality requirements.</p> <p>To be able to recognize and to put into practice principles of quality and HSW that can be applied to correspondent operations.</p> <p>To be able to adapt the machines and tools according to the material characteristics.</p> <p>To be able to follow instructions.</p>
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Stitching: to perform manual and/or mechanically all stitching operations with column, flat, zig-zag or front arm stitching machines.

1) To perform manual stitching operations in footwear

Knowledge	<p>Raw materials characteristics and behaviours</p> <p>General process and technology in footwear manufacturing</p> <p>The formation of the "point"</p> <p>Notions about threads and needles</p> <p>Footwear Manual stitching techniques</p> <p>Basic notion on the equipment and its maintenance</p> <p>Quality control procedures and standards Principles of HSW</p> <p>Knowledge of hand stitches</p> <p>Knowledge of the different reinforcing rows</p>
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Skills/ competence s	<p>To be able to identify different types of sewing threads to apply to the different types of stitching.</p> <p>To be able to identify different types of needles to apply to the different types of stitching.</p> <p>To be able to list materials according to the footwear models to stitch.</p> <p>To be able to check and handle needles, threads, pliers and scissors to perform hand-sewn footwear.</p> <p>To be able to apply manual techniques to stitch different types of footwear.</p> <p>To be able to check the pieces against specifications and quality requirements to avoid problems.</p> <p>To be able to recognize and to put into practice principles of quality and HSW that can be applied to correspondent operations.</p>
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2) To perform mechanically all stitching operations with column, flat, zig-zag or front arm stitching machines

Knowledge	<p>Raw materials characteristics and behaviours</p> <p>General process and technology in footwear manufacturing</p> <p>The formation of the "point"</p> <p>Notions about threads and needles</p> <p>Footwear mechanic stitching techniques</p> <p>Basic notion on the equipment, set up, regulations, cleaning/conservation and preventive maintenance</p> <p>Quality control procedures and standards</p> <p>Principles of HSW</p>
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<p>Skills/ competences</p>	<p>To be able to identify different types of sewing threads to apply to the different types of stitching.</p> <p>To be able to identify different types of needles to apply to the different types of stitching.</p> <p>To be able to list materials according to the footwear models to stitch.</p> <p>To be able to apply mechanic techniques to stitch different types of footwear.</p> <p>To be able to operate with column, flat, zigzag, or front arm stitching machines for the footwear stitching.</p> <p>To be able to program the equipment according to the material and the operation.</p> <p>To be able to select the machine accessories, putting them in the right place and adjust them to the machine.</p> <p>To be able to put accurately the pieces to stitch on the machine, and to guide all the stitching operation.</p> <p>To be able to check the pieces against specifications and quality requirements.</p> <p>To be able to recognize and to put into practice principles of quality and HSW that can be applied to correspondent operations.</p> <p>To be able to reduce the extent, the length differences (adjust and distribute the extents).</p> <p>To be able to assemble regularly reversed curves (turned seams).</p> <p>To be able to stitch along a line running parallel to the edge, to manage stitches on broken lines and the length of the stitches to stay regular.</p> <p>To be able to adjust the stitch length to obtain a regular parallelism on the overall stitching.</p>
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	<p>To be able to refrain from burning threads.</p> <p>To be able to do regular and subtle reinforcing rows or cover stitches.</p> <p>To be able to choose the correct needle with the right thickness and the right tip according to the intended effect.</p> <p>To be able to check the quality of work and to manage hazards.</p>
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STRUCTURE OF THE COURSE – MODULES AND DURATION

Module 1: Introduction of the course and description of the work (8 hours - theory)

Module 2: Description of the footwear world (4 hours – theory)

Module 3: General introduction to safety in the workplace (4 hours - theory)

Module 4: Communication (12 hours - theory)

- Reception, team building, group knowledge, admission budget
- Monitoring and experiential work on communication between roles
- Reflections and self-comparison
- Evaluation of path and learning

Module 5: Introduction to the footwear industry and main processes (16 hours - theory)

- Analysis of the dynamics of the footwear market
- Structure and Organization of the Sector
- Main processes
- Final test

Module 6: Design of model and technical sheets (20 hours - theory 8, practice 12)

- Drawing on sheet
- Sharpening and use of the knife, spreading adhesive paper on the last
- Drawing on the last
- Realization molds of upper, lining and reinforcements
- Final test

Module 7: Materials and components (24 hours - theory)

- Materials: leathers and fabrics
- Parts, components and accessories of the shoe
- Raw materials control
- Production phases and main machineries
- Technical documentation
- Final test

Module 8: Pre-stitching operations (8 hours - theory)

- Skiving, chrono, reinforcements, colour and signature
- Machines and equipment used

Module 9: Pre-stitching laboratory (56 hours - practice)

- Leather splitting operations
- Leather skimming operations
- Parts marking
- Gluing parts of upper and lining

- Edge processing of the upper
- Final test

Module 10: Stitching operations (8 hours - theory)

- Upper stitching, upper and lining assembly
- Machines and equipment used
- Used threads and reinforcements
- Final test

Module 11: Stitching laboratory (80 hours - practice)

- Stitching of upper parts and lining with flat and column machine
- Stitching of the upper and lining with flat and column machine
- Stitching of sneaker model
- Upper and lining assembly
- Insertion of reinforcement ribbons, reinforcements and eyelets
- Stitching decorative accessories
- Final test

Module 12: Quality control of the finished product (8 hours - theory)

- Mode and type of checks
- Evaluation criteria for defects

TOTAL DURATION

248 hours: 100 hours of theory / 148 hours of practice

Starting from the training program of the course of stitching of Polytechnic Calzaturiero shown above and after an analysis of the needs of the footwear sector in the region of Murcia, has been adapted resulting in a new training plan that is used as a basis for the request of a new specialty to the SEF and is shown below:

STITCHING/SEWING OF FOOTWEAR AND ESPADRILLES

General objective: To improve the knowledge of the traditional techniques of the sewing of the espadrille and the fitting of skins and fabrics in it. Increase the productivity and quality of the final product as well as the labor security of the workers.

Requirements of trainers:

Required qualification: School Graduate, ESO, FPI Skin and Leather, FPGM Technician in Footwear and Fashion Complements, or other higher education related to the occupation. If you do not have experience, you must have Level 1 Academic Training (Spanish Framework of Qualifications for Higher Education) or other higher level related to the professional field

Professional experience required:

Mastery of knowledge and techniques related to the industrial development of assembly and equipment of footwear and leather goods, finished in leather, textiles, synthetics and other materials.

If you do not have a qualification, you must certify at least 4 years of experience the competences related to the specialty teaching competence.

Training and / or experience required:

Possess methodological training or teaching experience, accredited by any of the following methods: (Certificate of professionalism of occupational trainer, or certificate of professionalism of teaching professional training for employment). Those who are in possession of official university degrees in Pedagogy, Psychopedagogy or Master in any of their specialties, of a university degree of Graduate in the field of Psychology or Pedagogy, or official postgraduate degree in the aforementioned fields will be exempt.

Those who have another official university degree other than those indicated and who are also in possession of the Certificate of Pedagogical Aptitude, or of the professional diplomas of Didactic Specialization and the Certificate of Pedagogical Qualification. Likewise, those who accredit the possession of an authorized University Master's Degree to exercise the professions of Compulsory Secondary Education and Baccaulaureate, Vocational Training and Official Language Schools and those who accredit the completion of a training course equivalent to pedagogical training will be exempt.

Those who accredit a proven teaching experience of at least 600 hours in the last 10 years of professional training for employment or the education system.

Given that it is a manual work with a very basic mechanization, those who have 4 years of experience in techniques of sewing or stitching related to the traditional product "Jute of Caravaca de la Cruz" and basic studies: EGB or ESO.

Students access criteria:

Academic or general knowledge level:

Minimum academic level, No studies, Primary Studies, School Graduate, or higher academic education.

When the applicant does not have the academic level indicated, he / she will demonstrate sufficient aptitude through an entrance test

Number of participants:

Maximum 25 participants for face-to-face courses. In principle, the optimal figure is 15 people per training activity.

Sequential relationship of formative modules:

1. Organization of work, assembly and table operations
2. Characteristics of the machinery, calibration, use and maintenance
3. Materials and tools
4. Assembling, sewing and finishing in shoe production

Duration:

Total hours: 400

Distribution hours:

Presence 400 hours

Minimum requirements of spaces, facilities and equipment

Training space:

	15 students	25 students	
Multi-purpose classroom	30m2	50m2	<p>Writing board</p> <p>PC for teacher and projector</p> <p>Classroom material</p> <p>Teacher's table and chair</p> <p>Tables and chairs for students or shovel chairs.</p>

Equipment:

Large table for preparation and assembly of pieces for the assembly of footwear.
 6 Column sewing machines, 1 needle, upper and lower synchronized drive, thread cutters; complete with bench, motor, and accessories.

1 Flat sewing machine, 1 needle, zig-zag, with programming panel and automatic clips, with electronic shoe clasp, complete with bench, motor and accessories.

4 Flat sewing machines, 1 needle, thread trimmer, (wheel), complete with bench, motor and accessories.
 5 Flat sewing machines, 1 needle, thread trimmer, with programming panel, complete with bench, motor and accessories.

Supplies:

The elements and necessary tools for the correct development of the course.

Occupation / is the classification of occupations

83660030 Parts preparer for shoe assembly and assembly

82600105 Responsible for aparate-montage and finization of footwear manufacturing

79420141 Operator of sewing and shoe press machines

TRAINING MODULES

MODULE 1

Denomination: knowledge of the espadrilles tradition of Caravaca, organization of work, assembly and table operations

Objective: once the origins and traditional techniques of the local product are known, acquire the capacities to organize the workspace for the work processes of assembling cut pieces, according to the work order, respecting the sequence, the times and applying the adequate techniques and with the established quality parameters.

Duration: 20 hours (5 practices)

Theoretical-practical contents:

1.1 Structure and components of footwear, cutting materials.

- 1.2 Organization of the workplace
- 1.3 Techniques and procedures for termination.
- 1.4 Assembly techniques.
- 1.5 Review, referencing, labelling and grouping.

MODULE 2

Denomination: The stitch machine: machinery characteristics, calibration, use and maintenance. The needle. Special threads for jute work

Objective: Acquire the skills to know the machinery, adequate resources and techniques necessary to correctly complete the production process. The student will practice in the handling and cleaning of the machine, as well as in the change of bobbin, threading and regulation of tensions. The student will be able to differentiate the type of needle for each class of material. Needle placement and removal exercises will be carried out as well as practices in the stippling without thread (straight, discontinuous line, curve, etc.) and in sewing with thread (through the figurative ones). They will also perform stitch length exercises.

Duration: 80 hours (10 practices)

Theoretical - practical contents:

- 2.1 Types of machines
- 2.2 Parts of the stitch machine.
- 2.3 Its operation.
- 2.4 Safety at work.
- 2.5 The needle. Types. Utilization
- 2.6 Threads, measurements, types and uses

MODULE 3

Denomination: useful, materials and tools. Adhesives. Skins, plastics and textiles, hemp, jute and sparto.

Objective: Acquire the skills to identify and use correctly, the tools, materials and tools necessary for the production process at all times. The student will practice in the handling of scissors, brushes, hammer etc. to master after refining, bending, bending by hand etc. Likewise, the student will work with furs and plastics to observe their differences and particularities, both in the touch and sewing of them.

Duration: 60 hours (15 practices)

Theoretical - practical contents:

- 3.1 Tools: Hammer, punch, scissors, belts, clogs, lasts, trimmings
- 3.2 Adhesives. Queues Latex
- 3.3 Skin. Features
- 3.4 Plastics. Features
- 3.5 Textile Fibers. Features. Traditional textile fibers: jute, hemp and esparto grass
- 3.6 Applications in the shoe

MODULE 4

Denomination: assembly, sewing and termination in the production of footwear. Cutting techniques of cutting to the plant: "buttonhole" technique with and without reinforcement. Pointers.

Objective: acquire the techniques to join and sew the pieces of footwear or other leather goods, and the finishing techniques according to the specifications of the product and respecting the established quality criteria. The student will be able to make the most common types of live, seams, embellishments, hemming, edging and joining zig-zag pieces. Practices will be carried out in the realization of the stitching of live and in it's stuck, as well as joints with live skin and fabric. They will practice the making of ornaments, both manual and machine-made. They will do exercises with templates of different difficulties to master the hemming. In the last part of the module the student will be able to compose any type or modality of shoe. Exercise in the placement of buckles, zippers, tape and everything that is necessary for the realization of different types of shoes. They will practice in the sewing of linings and, finally, the assembly of pieces. The assembly of the cut to the plant in the traditional way will also be approached, by means of the buttonhole technique.

Duration: 240 hours (80 practices)

Theoretical - practical contents:

- 4.1 Types of bias (curl, Italian, fine Italian).
- 4.2 Types of leather and fabric sewing.
- 4.3 Types of ornaments (ties, nerves and quilts).
- 4.4 Folded by hand.
- 4.5 Zig-zag.
- 4.6 Border
- 4.7 Sewing footwear Mercedes- type.
- 4.8 Sewing footwear Salon- type.
- 4.9 Sewing footwear English-type.
- 4.10 Sewing footwear Nautical –type.
- 4.11 Sewing footwear Sandal-type.
- 4.12 Sewing footwear Camping-type.
- 4.13 Sewing footwear boots-type.
- 4.14 Specific characteristics of jute footwear.
- 4.15 Assembly by means of buttonhole with and without reinforcement. Toe caps

DIDACTIC PLANNING OF THE COMPLETE COURSE

MODULE	HOURS OF THE MODULE	TRAINING UNITS	HOURS
MODULE 1 KNOWLEDGE OF THE ESPADRILLES TRADITION OF CARAVACA, ORGANIZATION OF WORK, ASSEMBLY AND TABLE OPERATIONS	20 hours	1.1 Structure and components of footwear, cutting materials.	4
		1.2 Organization of the workplace	4

		1.3 Techniques and procedures for termination.	4
		1.4 Assembly techniques.	4
		1.5 Review, referencing, labelling and grouping.	4
MODULE 2 DENOMINATION: THE STITCH MACHINE: MACHINERY CHARACTERISTICS, CALIBRATION, USE AND MAINTENANCE. THE NEEDLE. SPECIAL THREADS FOR JUTE WORK	80 hours	2.1 Types of machines	10
		2.2 Parts of the stitch machine.	10
		2.3 Its operation.	20
		2.4 Safety at work.	10
		2.5 The needle. Types. Utilization	15
		2.6 Threads, measurements, types and uses	15
MODULE 3 USEFUL, MATERIALS AND TOOLS. ADHESIVES. SKINS, PLASTICS AND TEXTILES, HEMP, JUTE AND SPARTO	60 horas	3.1 Tools: Hammer, punch, scissors, belts, clogs, lasts, trimmings	15
		3.2 Adhesives. Queues Latex	10
		3.3 Skin. Features	5
		3.4 Plastics. Features	5
		3.5 Textile Fibers. Features. Traditional textile fibers: jute, hemp and esparto grass	10
		3.6 Applications in the shoe	15
		4.1 Types of bias (curl, Italian, fine Italian).	10
		4.2 Types of leather	15

<p>MODULE 4</p> <p>ASSEMBLY, SEWING AND TERMINATION IN THE PRODUCTION OF FOOTWEAR. CUTTING TECHNIQUES OF CUTTING TO THE PLANT: "buttonhole" TECHNIQUE WITH AND WITHOUT REINFORCEMENT. POINTERS</p>	240 horas	and fabric sewing.	
		4.3 Types of ornaments (ties, nerves and quilts).	10
		4.4 Folded by hand.	10
		4.5 Zig-zag.	10
		4.6 Border	10
		4.7 Sewing footwear Mercedes- type.	15
		4.8 Sewing footwear Salon- type.	20
		4.9 Sewing footwear English-type.	20
		4.10 Sewing footwear Nautical – type.	20
		4.11 Sewing footwear Sandal-type.	15
		4.12 Sewing footwear Camping-type.	15
		4.13 Sewing footwear boots-type.	25
		4.14 Specific characteristics of jute footwear.	20
		4.15 Assembly by means of buttonhole with and without reinforcement. Toe caps	25

Material for learning

Under the supervision of the Calzaturiero Polytechnic, the didactic material composed of:

- Development of the theoretical part of the training modules of the course that are given to each student for consultation.
- Audiovisual material as demonstration videos of the different tasks developed together with Calzaturiero Polytechnic.

- Visits to companies to know first hand the real functioning of a stitching workshop.
- Classroom workshop with the different machines and tools used in the processes of stitching.
- Power Point presentations.
- Samples to disarm.
- Materials for tests.
- Equipment / tools.
- Individual course plan.
- Exercises.
- The course has an e-learning website at www.calzia.es where the didactic material used in each course can be found.

Initially, the elaboration of material in virtual and augmented reality was planned, but this has been replaced by the elaboration of audiovisual material that will be much more useful and will require less technical means at the time of generalizing its use and consultation by the students in any time after the course.

SPECIFIC OBJECTIVES AND LEARNING STRATEGIES

MODULE 1: Knowledge of the espadrilles tradition of Caravaca de la Cruz, organization of work, assembly and table operations

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Identify the structure and components of the footwear and its cutting materials. CE 1.1 Identify the components used in the manufacture of footwear. CE 1.2: Identify the different types of footwear.</p> <p>C2: Apply the rules of organization of the workplace. CE 2.1: Identify productivity barriers in the workplace. CE 2.2: Identify the components of the workplace environment. CE 2.3: Organize the different areas of work.</p> <p>C3: Identify and apply the techniques and procedures for the completion of the footwear. CE 3.1: Describe the shoe finishing process. CE 3.2: Identify and select the tools used in the shoe finishing process. CE 3.3: Identify and classify defects in the leather manufacturing and finishing process. CE 3.4: Describe the basic finishing operations.</p> <p>C4: Identify and apply footwear assembly techniques in the stitching process. CE 4.1: Describe the cutting process. CE 4.2: Identify the areas of the assembly process.</p> <p>C5: Perform the revision, referencing, labelling and</p>	<p>1.1 Structure and components of footwear, cutting materials.</p> <p>1.2 Organization of the workplace</p> <p>1.3 Techniques and procedures for termination.</p> <p>1.4 Assembly techniques.</p> <p>1.5 Review, referencing, labelling and grouping.</p>	<p>Exhibition by the trainer of the history and espadrilles tradition of Caravaca de la Cruz. Exhibition and demonstration by the trainer of the techniques and tools used in the process of work organization, assembly and table operations, relying on the means provided. Formulation of verbal questions to check the understanding of the explained.</p> <p>Visualization of a real work area in the workshop.</p> <p>Practical activities in the workshop to check the understanding of the explained.</p> <p>Completion of the final module exam with theoretical and practical part in the workshop to evaluate the evaluation criteria established in the module.</p>	<p>Classroom for theory with chairs, tables and projector for explanation of theoretical part.</p> <p>Stitching workshop for explanation and demonstration of theoretical part.</p> <p>The workshop has different machines (Trimming machine, flat machines, zig-zag machines, bending machines to tail, etc.) of sewing and tools (scissors, brushes, threads, needles, etc.) used in the process of footwear stitching. It also has a cabin for sticking adhesives.</p>

<p>grouping of footwear stitching. CE 5.1: Perform the revision and quality control of the stitching. CE 5.2: Referencing the different elements that make up the stitching. CE 5.3: Label the different elements that make up the stitching. CE 5.4: Perform the stitching grouping process.</p>			
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MODULE 2: The stitch machine: machinery characteristics, calibration, use and maintenance. The needle. Special threads for jute work

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Identify the different types of machines used in stitching. CE 1.1: Identify and describe the characteristics of the machines used in the stitching process. CE 1.2.: Select the necessary machine for each part of the stitching process.</p> <p>C2: Identify the parts of the stitching machine. CE 2.1: Identify and describe the characteristics of the parts of the stitching machine.</p> <p>C3: Describe the operation of the stitching machine.</p>	<p>2.1 Types of machines</p> <p>2.2 Parts of the stitch machine.</p> <p>2.3 Its operation.</p> <p>2.4 Safety at work.</p> <p>2.5 The needle. Types. Utilization</p> <p>2.6 Threads, measurements, types and uses</p>	<p>Exhibition and demonstration by the trainer of the machines and tools used in the stitching process, visually identifying on the machine the parts of each one of them.</p> <p>Exhibition and demonstration by the trainer of the calibration, use and maintenance of the machines in the workshop.</p> <p>Exposure by the feature trainer of the sewing thread</p> <p>Formulation of verbal questions to check the understanding of the explained.</p> <p>Practical activities in the workshop to check the understanding of the explained.</p> <p>Completion of the final module exam</p>	<p>Classroom for theory with chairs, tables and projector for explanation of theoretical part.</p> <p>Stitching workshop for explanation and demonstration of theoretical part.</p> <p>The workshop has different machines (Trimming machine, flat machines, zig-zag machines, bending machines to tail, etc.) of sewing and tools (scissors, brushes, threads, needles, etc.) used in the process of footwear stitching. It also has a cabin for sticking adhesives.</p>

<p>CE 3.1: Describe the entire process of operation of the stitching process.</p> <p>C4: Apply the rules of safety at work.</p> <p>CE 4.1: Identify possible work accidents.</p> <p>CE 4.2: Describe the concept of prevention of general risks.</p> <p>CE 4.3: Describe the specific risks of the sewing station.</p> <p>C5: Identify the types of needle and its proper use.</p> <p>CE 5.1: Identify the parts of a needle.</p> <p>CE 5.2: Identify needle types and their use.</p> <p>C6: Identify the types of threads, their measurements and their different uses within the stitching process.</p> <p>CE 6.1: Identify the types of threads.</p> <p>CE 6.2: Select the type of thread for the different stitches.</p>		<p>with theoretical and practical part in the workshop to evaluate the evaluation criteria established in the module.</p>	
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MODULE 3: Useful, materials and tools. Adhesives. Skins, plastics and textiles, hemp, jute and sparto

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Identify the tools and tools used in stitching.</p> <p>CE 1.1: Identify the tools and tools used in stitching.</p> <p>CE 1.2: Describe the main characteristics of the tools used in the stitching process.</p> <p>C2: Apply adhesives such as glues and latex in the stitching process.</p> <p>CE 2.1: Describe the types of existing adhesives for the stitching bonding process.</p> <p>CE 2.1: Select the correct type of adhesive for the stitching bonding process.</p> <p>C3: Identify the characteristics of the skins used in the manufacture of footwear.</p> <p>CE 3.1: Identify the skins according to their origin.</p> <p>CE 3.2: Describe the finishes of the skin.</p> <p>C4: Identify the characteristics of the plastic materials used in the manufacture of footwear.</p> <p>CE 4.1: List the most used plastics.</p> <p>CE 4.2: List and describe plastics for the manufacture of</p>	<p>3.1 Tools: Hammer, punch, scissors, belts, clogs, lasts, trimmings</p> <p>3.2 Adhesives. Queues Latex</p> <p>3.3 Skin. Features</p> <p>3.4 Plastics. Features</p> <p>3.5 Textile Fibers. Features. Traditional textile fibers: jute, hemp and esparto grass</p> <p>3.6 Applications in the shoe</p>	<p>Exhibition and demonstration by the trainer of the tools, materials and tools used in the shoe stitching process.</p> <p>Exhibition and demonstration in adhesive bonding cabin the process of bonding the lining on the footwear in the stitching.</p> <p>Exhibition and sample by the trainer of hemp, jute and esparto materials.</p> <p>Formulation of verbal questions to check the understanding of the explained.</p> <p>Practical activities in the workshop to check the understanding of the explained.</p> <p>Completion of the final module exam with theoretical and practical part in the workshop to evaluate the evaluation criteria established in the module.</p>	<p>Classroom for theory with chairs, tables and projector for explanation of theoretical part.</p> <p>Stitching workshop for explanation and demonstration of theoretical part.</p> <p>The workshop has different machines (Trimming machine, flat machines, zig-zag machines, bending machines to tail, etc.) of sewing and tools (scissors, brushes, threads, needles, etc.) used in the process of footwear stitching. It also has a cabin for sticking adhesives.</p>

<p>soles.</p> <p>CE 4.3: list and describe the plastics for the manufacture of heels.</p> <p>C5 Identify the characteristics of the textile fibers used in footwear manufacturing.</p> <p>CE 5.1: Identify the characteristics of textile fibers.</p> <p>CE 5.2: List the fabric materials.</p> <p>CE 5.3: List the characteristics of Jute.</p> <p>CE 5.4: List the characteristics of Hemp.</p> <p>CE 5.5: List the characteristics of Esparto.</p> <p>C6 Application of the different materials in the stitching process of the shoe.</p> <p>CE 6.1: Identify the materials used in each of the processes that make up the shoe stitching.</p>			
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MODULE 4: Assembly, sewing and termination in the production of footwear. Cutting techniques of cutting to the plant: "buttonhole" technique with and without reinforcement. Pointers

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Identify the types of bias used in the stitching process. CE 1.1: Describe the bias.</p> <p>C2: Identify and select the correct type of seam in leather and fabric. C2.1: Identify the different types of seams in the shoe stitching process. C2.2: Select the appropriate seam type in each phase of the shoe stitching process.</p> <p>C3: Identify the types of decorations that the shoe contains. C3.1: Identify the adornments used in shoe stitching. C3.2: Use the appropriate technique to place the ornaments to the shoe in the stitching process.</p> <p>C4: Perform the technique of bending by hand. CE4.1: List the steps of the bending technique by hand. CE4.1: Apply the technique of bending by hand to the shoe.</p>	<p>1.1 Types of bias (curl, Italian, fine Italian). 1.2 Types of leather and fabric sewing. 1.3 Types of ornaments (ties, nerves and quilts). 1.4 Folded by hand. 1.5 Zig-zag. 1.6 Border 1.7 Sewing footwear Mercedes- type. 1.8 Sewing footwear Salon-type. 1.9 Sewing footwear English-type. 1.10 Sewing footwear Nautical –type. 1.11 Sewing footwear Sandal-type. 1.12 Sewing footwear Camping-type. 1.13 Sewing footwear boots-type. 1.14 Specific characteristics of jute footwear.</p>	<p>Exhibition and demonstration by the trainer of the assembly, sewing and finishing in the production of footwear, using the workshop to show the different techniques of sewing and stitching. Exhibition and demonstration in adhesive bonding cabin the process of bonding the lining on the footwear in the stitching. Exhibition and demonstration of jute shoe and toe stitching using the buttonhole technique. Formulation of verbal questions to check the understanding of the explained. Practical activities in the workshop to check the understanding of the explained. Completion of the final module exam with theoretical and practical part in the workshop to evaluate the evaluation criteria established in the module.</p>	<p>Classroom for theory with chairs, tables and projector for explanation of theoretical part. Stitching workshop for explanation and demonstration of theoretical part. The workshop has different machines (Trimming machine, flat machines, zig-zag machines, bending machines to tail, etc.) of sewing and tools (scissors, brushes, threads, needles, etc.) used in the process of footwear stitching. It also has a cabin for sticking adhesives.</p>

<p>C5: Perform the Zig-Zag technique. CE5.1: List the steps of the Zig-Zag technique. CE5.1: Apply the Zig-Zag technique to the shoe.</p> <p>C6: Perform the hemming technique. CE6.1: List the steps of the hemming technique. CE6.1: Apply the hemming technique to the shoe.</p> <p>C7: Perform the stitching of footwear Mercedes-type. CE7.1: Identify the characteristics of Mercedes-type shoes. CE7.2: Identify the pieces of the Mercedes-type cut. CE7.3: List the steps for the stitching process of Mercedes-type.</p> <p>C8: Perform the stitching of footwear Salon- type. CE8.1: Identify the characteristics of footwear Salon-type. CE8.2: Identify the pieces of the shoe Salon- type. CE8.3: List the steps for the stitching process of footwear Salon- type.</p> <p>C9: Perform the stitching of English-type shoe.</p>	<p>1.15 Assembly by means of buttonhole with and without reinforcement. Toe caps</p>		
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CE9.1: Identify the characteristics of English-type shoes.
CE9.2: Identify the pieces of the cut of the English-type shoes.
CE9.3: List the steps for the stitching process of the English-type shoes.

C10: Perform the stitching of Nautical-type shoes.
CE10.1: Identify the characteristics of Nautical-type.
CE10.2: Identify the pieces of the cut of the Nautical-type footwear.
CE10.3: List the steps for the stitching process of Nautical-type footwear.

C11: Perform the stitching of footwear sandal-type.
CE11.1: Identify the characteristics of sandal-type shoes.
CE11.2: Identify the pieces of the shoe sandal-type cut.
CE11.3: List the steps for the stitching process of sandal-type shoes.

C12: Perform the stitching of footwear camping-type.
CE12.1: Identify the characteristics of the camping-type footwear.
CE12.2: Identify the pieces of the cut of the camping-type footwear.
CE12.3: List the steps for the stitching process of the

<p>camping-type shoes.</p> <p>C13: Perform the stitching of footwear boot-type.</p> <p>CE13.1: Identify the characteristics of boot-type shoes.</p> <p>CE13.2: Identify the pieces of the boot-type cut.</p> <p>CE13.3: List the steps for the boot-type stitching process.</p> <p>C14: Identify the specificities of jute footwear stitching</p> <p>CE14.1: Identify the components of jute footwear.</p> <p>CE14.2: Describe the characteristics of jute footwear</p> <p>C15: Perform the assembly by means of a buttonhole with and without reinforcement and the dropouts.</p> <p>CE15.1: List the steps of the buttonhole assembly technique with and without reinforcement.</p> <p>CE15.2: Apply the assembly technique using the buttonhole technique.</p> <p>CE15.3: Apply the buttonhole technique for stitching the toe.</p>			
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The adaptation of the training plan has led to a course of more hours (400 compared to 248 of the initial) but with a smaller number of training modules, the 12 modules have been adapted to only 4 in which emphasis has been placed on the tasks most needed by companies in the Region of Murcia in the process of stitching.

3.2 CUTTING AND PATTERN MAKING PROGRAM

For the configuration of the training program of this course we have opted for the adaptation and unification of 2 courses (FOOTWEAR OPERATOR - CUTTING and FOOTWEAR OPERATOR - PATTERN MAKER) included in the training catalog of Politécnico Calzaturero, selecting the most outstanding and demanded subjects by the footwear sector of the Region of Murcia.

After interviews with companies of the sector, it was detected that the position of a patronist and of a cutter in a large part of the companies is occupied by the same worker or by 2 workers in continuous contact who must have knowledge for the 2 jobs.

Below are the training programs of the courses included in the training catalog of the Calzaturero Polytechnic unified in a single training course:

FOOTWEAR OPERATOR – CUTTING (COURSE 1)

PROFESSIONAL PROFILE:

In the context of the shoe production, after having obtained the molds of the model and after having selected the suitable materials (leather or others) requested by the stylist, the cutting expert must be able to transform the leather into pieces of the upper, which will then be stitched.

In Cutting department, the top part of the shoe or the "upper" is made for the shoes. The cutting operative is given skins of leather, mostly cow leather but not restricted to this type of leather. Using metal strip knives, the worker cuts out pieces of various shapes that will take the form of "uppers".

This operation needs a high level of skill as the leather has to be wasted at the minimum level possible. Leather may also have various defects on the surface such as barbed wire scratches which needs to be avoided, so that they are not used for the uppers.

AIMS OF THE COURSE:

The course aims to provide the basic skills for hand and machine cutting. At the end of the training the student will be able to:

- Recognize the different parts of footwear models
- Analyse quality characteristics and leather defects.
- Optimize the placement of the moulds on the leather
- Make the cut activity by hand and shear
- Perform the cutting with CAD technologies (if possible)

Applicants: Employed or unemployed people interested in acquiring the basic skills to cut shoes by hand and by machine.

ACTIVITIES – DESCRIPTION OF THE PROFILE

Clicking – cutting: To cut the different pieces of the luxury footwear models according to the technical information, using adequate equipment (mainly manually or using clicking machine and applying adequate techniques.

- 1) To distinguish the different types of hides and skins, basic treatment and finishing processes, according to their nature and structure, identifying their properties, characteristics and applications.

<p>Knowledge</p>	<p>Structure and parts of the leather</p> <p>Leather types. Different kinds of leathers. Exotic leathers</p> <p>Tanning process</p> <p>Characteristics and properties of the tanned hides</p> <p>Major defects of the leather</p> <p>Identification procedures and applications for luxury footwear</p> <p>Knowledge of footwear technology</p>
<p>Skills/ competences</p>	<p>To be able to identify the origin and characteristics of leathers.</p> <p>To be able to identify treatment and finishing of the leathers by their appearance and characteristics specified in the data sheet.</p> <p>To be able to fill in data sheet with characteristics of leather.</p> <p>To be able to identify the most common defects in leathers.</p> <p>To be able to analyse the data collected in data sheets.</p> <p>To be able to identify different kinds of exotic leathers and their specific properties.</p> <p>To be able to select leather for different kinds of luxury shoes.</p>

2) To cut leather by different methods maximising their usage

<p>Knowledge</p>	<p>Properties of leather</p> <p>Flexibility and stress of different areas of the leather</p> <p>Placement in the surface of leather of the pieces to be cut according to their location in the footwear</p>
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Skills/ competences	<p>To be able to systematically check the flexibility and stress of the leather for placing the pieces to be cut.</p> <p>To be able to cut with accuracy the piece of leather, fitting exactly to the shape and size of the cardboard.</p> <p>To be able to identify the most common defects in hides and skins or failures due to natural processes derivatives.</p> <p>To be able to identify parts of the leather that can and cannot be used in luxury shoes. To know how to process the cutting by pair, and technical aspects.</p> <p>To be able to propose the elimination of material defects.</p> <p>To be able to optimize material consumption.</p>
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STRUCTURE OF THE COURSE – MODULES AND DURATION

With the course, the student will know about the following issues (modules):

- structure and parts of the leather
- leather types. Different type of leathers; Exotic leathers
- tanning process
- characteristics and properties of the tanned hides
- major defects of the leather
- identification procedures and applications for luxury footwear
- knowledge of footwear technology
- principles and rules Clicking & Cutting
- traditional and new technologies of Clicking
- overview of high-quality materials and types of finishes

TOTAL DURATION

60 hours: mixed between theory and practice

FOOTWEAR OPERATOR – PATTERN MAKER (COURSE 2)

PROFESSIONAL PROFILE:

As part of the shoe design, the product must be adapted to the person's foot. In contrast with some industry which clusters, simplifies in order to reduce costs, luxury shoe must take into account foot welfare and comfort, as well as all the details the designer put in its fashion idea.

First of all, the pattern maker will have a global representation of the last on which he will be able to develop the models either by the copy of reality method or by the theoretical method based on reusable proportions.

AIMS OF THE COURSE:

The Pattern-Making courses provide students with the basic knowledge needed to work like pattern-makers and technicians in a footwear company.

To provide students with the technical basic competences needed to work in the design and industrial fields of footwear. At the end of the training the students will be able to draw on paper and on the last; they will learn to develop the below models studied during the years: décolleté – buttoned shoe – oxford – derby – moccasin – low boot – sandal.

Also, he/she acquires the knowledge about the structure and the organization of the footwear sector and about the different typologies of the products, materials and components used.

Applicants: Employed and unemployed people interested in acquiring the basic skills needed to design footwear models. The basic course requires good dexterity design ability and a basic understanding of technical subjects.

ACTIVITIES – DESCRIPTION OF THE PROFILE

Pattern-making: To create and realize the pattern/moulds of a shoe model, starting from the proposed stylistic design, using the manual techniques and the tools proper of a pattern maker - technician.

- 1) To select and check the last by manual or computer means, in order to determine and adjust the fitting.

Knowledge	<p>Pattern making adjustments and materials</p> <p>Type of last, model and manufacturing process</p>
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Skills/competences	<p>To be able to select the most appropriate last according to the required fitting, the model and the type of manufacturing process.</p> <p>To be able to determine the surfaces as well as the different basic points and markers (heights and others) on the last surface using the manual technique.</p> <p>To know and use computer tools and programme to determine the different basic points and markers on the digitalized last.</p>
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- 2) To make the baseline plan of the last

Knowledge	<p>Use of conventional fitting techniques for the making of the last: adhesive paper, vegetable paper, tracing paper and others</p>
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Skills/ competence s	To be able to develop the baseline plan of the last taking into account the technical characteristics of the last.
	To be able to realise a baseline plan of the last from the inside and outside forms and from the below form.
	To be able to obtain a baseline plan of the last taking into account the inside and outside volume differences.
	To be able to check the surface of the form with a fabric cover.
	To be able to do the needed modifications to adjust the surface.

3) To draw the model in volume on the last

Knowledge	Use of conventional fitting techniques for the realisation of the last: adhesive paper, vegetable paper, tracing paper and others. Fitting techniques
Skills/ competence s	To be able to transpose the drawing baselines on the last, respecting the fitting, the data sheet model and the design.

4) To make the model plan

Knowledge	Knowledge on technical and aesthetical constraints of the different types of models.
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Skills/ competences	<p>To be able to adapt the model lines taking into account the manufacturing process and the variables such as type of raw material, measures, functional and aesthetic requirements, product quality requirements, manufacturing process and economic requirements.</p> <p>To transpose the lines of the model on the form plan respecting the plan constraints: back height, vamp point height joint, ankle bone height, instep, input width, ankle circumference</p> <p>To take into account the form volume differences linked to the foot morphology, to the fitting physical constraints and to the visual (higher inside side lines, further forward, etc.).</p> <p>To add lasting values according to the type of the chosen manufacturing process.</p> <p>To create the back curve according to the material and backers which are used.</p> <p>To position the front axes of the model and of the instep taking into account the lines of the model, the material, the backers and the fitting.</p> <p>To position the location of the accessories (rivet, eyelet, elastic band, etc.) and the upper backers (hard toe, counter, facing stitch, etc.).</p> <p>To create lining lines taking into account the model lines, top lines, needed shrinkages for adding backers for the setting of the lining taking into account outside elements (choice of material), but also fitting, type of manufacturing and type of model</p>
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- 5) To develop the patterns by hand tools or computer aided tools, from the plan of the model considering the requirements of the company and the customer

Knowledge	<p>Basic form plan and model plan</p> <p>To know the different types of models and the different parts of a shoe.</p> <p>To know the different methods of development according to the type of model.</p>
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Skills/ competences	<p>To be able to develop the external patterns from the shell by computer and / or manual method, taking into account the lines of the shell: inside and outside side lines, different axes and fitting.</p> <p>To be able to make the internal patterns (lining) from the shell by computer and / or manual method, taking into account the constraints of the top lines and the fitting.</p> <p>To be able to make the patterns of the insole from the form taking into account the type of model (sandal, closed shoe, boot, etc.)</p> <p>To be able to make the patterns of auxiliary components (backers under eyelets, side linings, counters, hard toe, etc.)</p> <p>To be able to adapt margin values depending on materials, manufacturing process, methods and tools in the company, position markers, fitting and design specifications.</p> <p>To be able to index and identify the internal and external patterns (size, right/left foot, seams, and others) applying terminology and symbolism.</p>
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6) To analyse and adjust the prototype

Knowledge	<p>Shoe model done</p> <p>Fitting with base size.</p>
Skills/ competences	<p>To be able to analyse and take into account any remarks and suggestions expressed during manufacturing.</p> <p>To modify lines not corresponding to the style drawing, to the fitting, to the cost price.</p> <p>To be able to adapt modifications to the shell.</p> <p>To be able to develop the parts according to the adjustments done on the shell.</p>

STRUCTURE OF THE COURSE – MODULES AND DURATION

First Year Course – Basic Pattern Making

Module 1 - STYLISTIC DESIGN: basic drawing techniques, volumes, colour effects, orthogonal projection, free hand and last design, foot anatomy, lasts proportions, design of different footwear models (60 hours)

Module 2 - BY HAND TECHNICAL PATTERN-MAKING: development of upper, lining and reinforcement moulds of basic models, technical documents preparation (120 hours)

Module 3 - PROCESSES/MATERIALS TECHNOLOGIES: basic knowledge of footwear structure, components, materials and processes of design and production. Workshop on Quality System and Company Organization. Factory Visits to last-making companies, sole and insole factories, heel companies, tanneries, footwear enterprises (60 hours)

Second Year Course – Advanced Pattern Making

Module 1 - PROFESSIONAL DESIGN: advanced techniques to technically draw variations to man/woman basic models on paper and on last, in order to acquire skills needed to build a mini-collection. (30 hours)

Module 2 - STYLISTIC DESIGN: techniques, colours application, graphic studies of components and accessories. (30 hours)

Module 3 - BY HAND TECHNICAL PATTERN-MAKING: development of upper, lining and reinforcement moulds of the mini-collection models, technical documentation planning. (120 hours)

Module 4 - PROCESSES TECHNOLOGIES: analysis of production processes (cutting, binding, lasting, finishing) of a specific shoe model defined by the teacher. Seminar about 2D/3D CAD Systems. (60 hours)

TOTAL DURATION

480 hours: mixed between theory, seminars and practice.

After an analysis of the needs of the footwear sector in the region of Murcia and the collaboration of the Polytechnic Calzaturiero, the adaptation and unification of the training programs of the FOOTWEAR OPERATOR - CUTTING and FOOTWEAR OPERATOR - PATTERN MAKER courses shown above has been chosen to a new training plan that is used as the basis for the presentation of a new specialty to the SEF:

BASIC AND CUTTING PATTERNS OF FOOTWEAR MATERIALS

Objective: Prepare simple and hand-made models of footwear such as camping, Valencian, Oxford shoe using different types of products and materials that increase the productivity and quality of the final product in optimal conditions of occupational safety.

Prescription of the trainers:

Degree required:

ESO or equivalent, FPI Leather and leather, FPGM Technical Manufacturing of Footwear and Fashion Accessories, or other training related to the occupation.

Professional experience required:

At least one year of professional experience related to the specialty. In the case of not accrediting the required degree, 3 years of professional experience will be required.

Teaching competence:

Have methodological training or teaching experience of at least 100h. or experience in training workers for 1 year.

Student access criteria:

Academic level or general knowledge:

No studies

When the student for the course does not have the indicated academic level, they will demonstrate sufficient knowledge through an entrance exam.

Number of participants:

Maximum 15 participants for face-to-face courses.

Sequential relationship of training modules:

- Basic drawing of footwear on last
- Basic manual pattern
- Processes, materials and machinery
- CAD techniques for pattern design and application to material cutting

Duration: 360

Minimum requirements for spaces, facilities and equipment

Training space	15 students	Equipment
Multipurpose Classroom	45m2	Blackboard. PC's for teachers and students. Projector. Software programs for pattern design, marking and design. Teaching table and chair and students. 1 Full job position for teacher. 1 digitizing table. 1 Plotter with 1.80 cm paper roll. width A3 laser printer. Drawing, measuring, plotting, cutting and signaling instruments. Cutting machine. Automatic cutting machine

Training space:

The elements and tools necessary for the correct development of the course: skins, synthetics, textiles, drawing supports

Classification of occupations

Code and denomination.

- 7837.1143 Model-patronists-climbers of leather goods and leather and leather goods.
- 7837.1152 Model-patronists-shoe climbers.
- Technical pattern designer with CAD / CAM.
- Patronist-shoe climber.
- Patronist-climber of leather goods and leather goods.
- Modelist-patronist-shoe adjuster.
- Model-patronist of leather goods and leather goods.

TRAINING MODULES

MODULE 1

Denomination: Basic drawing of shoes on horn

Objective: To know the basic drawing techniques, volumes, color effects, orthogonal projection, freehand and last design, foot anatomy, proportions and their application to different footwear styles

Duration: 80 hours

Theoretical-practical contents:

- 1.1 The Last. Observation and schematization
- 1.2 Bases of drawing, orthogonal projections, correction and axonometries
- 1.3 Introduction to colors, pastel and shadow theory. Ornaments
- 1.4 Application to men's shoes: oxford, camping, moccasin
- 1.5 Application to women's shoes: Valencian, ballroom, boot
- 1.6 Application to the children's shoe

MODULE 2

Denomination: Basic manual patternage

Objective: To know the basic techniques of cutting, lining and the different pieces of the shoe.

Duration: 120 hours

Theoretical - practical contents:

- 2.1 Materials, tools and manual knife cutting practice
- 2.2 Last wrap with paper, modeling bases
- 2.3 Corrections. Types
- 2.4 Modeling of the different types of footwear. Variants and corrections

MODULE 3

Denomination: Processes, materials and machinery

Objective: To recognize the structure of the shoe, its components, materials and processes of design and production.

Duration: 60 hours

Theoretical - practical contents:

- 3.1 Materials, tools and practice of manual cutting with blade.
- 3.2 Supply chain in the manufacture of footwear. Specificity of jute footwear and sustainability
- 3.3 Concepts of prototypes and collections. Carvings and climbs
- 3.4 Techniques for calculating consumptions and material scandals
- 3.5 Visits to companies that manufacture lasts, soles, plants and tanned skins

MODULE 4

Denomination: CAD patterning techniques and application to the cutting of materials

Objective: Recognize and use the current tools of pattern, scale and cut of materials

Duration: 100 hours

Theoretical - practical contents:

- 4.1 Scanning tools: 3D 2D 3D. Alternatives
- 4.2 Pattern and scale with Caligola tool
- 4.3 Preparation and updating of technical data sheets
- 4.4 Considerations for the automatic cutting of skins, synthetics and fabrics

DIDACTIC COURSE PLANNING

MODULE	HOURS OF THE MODULE	TRAINING UNITS	HOURS
MODULE 1 Basic drawing of footwear on last	80 hours	1.1 The Last. Observation and schematization	10
		1.2 Bases of drawing, orthogonal projections, correction and axonometries	15
		1.3 Introduction to colors, pastel and shadow theory. Ornaments	10
		1.4 Application to men's shoes: oxford, camping, moccasin	15
		1.5 Application to women's shoes: Valencian, ballroom, boot	20
		1.6 Application to the children's shoe	10
MODULE 2	120 hours	2.1 Materials, tools and manual knife cutting practice	25
		2.2 Last wrap with paper, modeling	35

Basic manual patternage		bases	
		2.3 Corrections. Types	20
		2.4 Modeling of the different types of footwear. Variants and corrections	40
MODULE 3 Processes, materials and machinery	60 hours	3.1 Materials, tools and practice of manual cutting with blade.	10
		3.2 Supply chain in the manufacture of footwear. Specificity of jute footwear and sustainability	10
		3.3 Concepts of prototypes and collections. Carvings and climbs	10
		3.4 Techniques for calculating consumptions and material scandals	15
		3.5 Visits to companies that manufacture lasts, soles, plants and tanned skins	15
MODULE 4 CAD patterning techniques and application to the cutting of materials	100 hours	4.1 Scanning tools: 3D 2D 3D. Alternatives	15
		4.2 Pattern and scale with Caligola tool	50
		4.3 Preparation and updating of technical data sheets	15
		4.4 Considerations for the automatic cutting of skins, synthetics and fabrics	20

LEARNING MATERIALS

Under the supervision of the Calzaturiero Polytechnic, the teaching material consisting of:

- Development of the theoretical part of the training modules of the course that are delivered to each student for consultation.
- Audiovisual material as demonstration videos of the different tasks elaborated together with Polytechnic Calzaturiero.
- Visits to companies to learn first-hand functions of the cutter and patronist within a shoe manufacturing company.
- Classroom workshop with the computer equipment, cutting materials and tools necessary to acquire the necessary knowledge imparted in the training action.
- Power Point Presentations
- Cutting materials
- Materials for pattern design
- Equipment / tools
- Individual course plan
- Exercises



- The course has an e-learning website at the address at www.calzia.es where the teaching material used in each course is located.

SPECIFIC OBJECTIVES AND LEARNING STRATEGIES

Module 1: Know the basic drawing techniques, volumes, color effects, orthogonal projection, freehand and last design, foot anatomy, proportions and their application to different footwear styles

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Identify parts and characteristics of the last. CE 1.1 Identify the parts of the last. CE 1.2: Identify the main characteristics of the last.</p> <p>C2: Describe and apply the bases of the drawing. CE 2.1: Perform the technique of drawing orthogonal projections. CE 2.2: Make corrections and axonometries in the drawing.</p> <p>C3: Identify and describe the characteristics of the colors. CE 3.1: Identify primary and secondary colors. CE 3.2: Perform the pastel technique in the drawing. CE 3.3: Describe the shadow theory and make its application.</p> <p>C4: Freehand drawing men's shoes. CE 4.1: Draw Oxford type shoe. CE 4.2: Draw Camping type shoe. CE 4.3: Draw Moccasin type shoe.</p> <p>C5: Freehand drawing women's shoes. CE 5.1: Draw a Valencian type shoe. CE 5.2: Draw Salon type shoe. CE 5.3: Draw a Ballerina shoe. CE 5.4: Draw boot type shoe.</p> <p>C6: Draw freehand children's shoe. CE 6.1: Draw children's shoe</p>	<p>1.1 The Last. Observation and schematization 1.2 Bases of drawing, orthogonal projections, correction and axonometries 1.3 Introduction to colors, pastel and shadow theory. Ornaments 1.4 Application to men's shoes: oxford, camping, moccasin 1.5 Application to women's shoes: Valencian, ballroom, boot 1.6 Application to the children's shoe</p>	<p>Exposure by the trainer of the characteristics of the last. Exhibition and demonstration by the trainer of the bases of the drawing and techniques applied to different types of shoes. Formulation of verbal questions to check the understanding of what has been explained. Practical drawing activities to check the comprehension of the explained. Realization of final module exam with theoretical and practical part to evaluate the evaluation criteria established in the module.</p>	<p>Classroom with chairs, tables and projector for explanation of theoretical part. Classroom workshop with computer equipment, cutting materials and tools necessary for manual cutting. The computer equipment has applications installed for the cutting and pattern of footwear.</p>

Module 2: Basic manual patterning

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Identify the different materials, tools and practices of manual cutting. CE 1.1: Identify and describe the characteristics of the main cutting materials. CE 1.2: Identify and describe the characteristics of the main cutting tools. CE 1.3: Perform manual cutting with blade on different materials.</p> <p>C2: Describe the process of wrapping the last with paper. CE 2.1: Perform the process of wrapping the last with paper. CE 2.1: Describe the basis of modeling.</p> <p>C3: Identify the different corrections and their types. CE 3.1: Make corrections in shoe modeling. CE 3.1: Identify the different types of corrections.</p> <p>C4: Identify and apply modeling techniques to different types of footwear. CE 4.1: Perform modeling of different types of footwear. CE 4.2: Identify existing modeling variants. CE 4.3: Make the appropriate corrections in the process.</p>	<p>2.1 Materials, tools and manual knife cutting practice</p> <p>2.2 Last wrap with paper, modeling bases</p> <p>2.3 Corrections. Types</p> <p>2.4 Modeling of the different types of footwear. Variants and corrections</p>	<p>Exhibition by the trainer of the different materials and cutting tools, demonstration of hand cutting with blade.</p> <p>Demonstration by the trainer of the techniques of wrapping the last and modeling by hand.</p> <p>Formulation of verbal questions to check the understanding of what has been explained.</p> <p>Practical modeling activities to check the compression of the explained.</p> <p>Realization of final module exam with theoretical and practical part to evaluate the evaluation criteria established in the module.</p>	<p>Classroom with chairs, tables and projector for explanation of theoretical part.</p> <p>Classroom workshop with computer equipment, cutting materials and tools necessary for manual cutting.</p> <p>The computer equipment has applications installed for the cutting and pattern of footwear.</p>

Module 3: Processes, materials and machinery

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Identify the different materials, tools and practices of manual cutting. CE 1.1: Identify and describe the characteristics of the main cutting materials. CE 1.2: Identify and describe the characteristics of the main cutting tools. CE 1.3 .: Perform manual cutting with blade on different materials.</p> <p>C2: Identify and describe the phases of the supply chain in the manufacture of footwear and the characteristics of jute footwear. CE 2.1: Describe the phases of the supply chain in the manufacture of footwear indicating their order. CE 2.1: Describe the specifications and characteristics of jute hunting and its sustainability.</p> <p>C3: Describe the concept of prototype and collection, as well as carvings and scaling techniques. CE 3.1: Describe what a prototype is. CE 3.2: Describe what a collection is. CE 3.3: Identify and enumerate the different existing sizes. CE 3.4: Perform the scaling technique.</p> <p>C4: Perform the calculation of consumptions and material scandals. CE 4.1: Identify the consumptions in the manufacturing process. CE 4.2: Make a scandal of the manufacture of the shoe for the calculation of its sale price.</p>	<p>3.1 Materials, tools and practice of manual cutting with blade.</p> <p>3.2 3.2 Supply chain in the manufacture of footwear. Specificity of jute footwear and sustainability</p> <p>3.3 Concepts of prototypes and collections. Carvings and climbs</p> <p>3.4 Techniques for calculating consumptions and material scandals</p> <p>3.5 Visits to companies that manufacture lasts, soles, plants and tanned skins</p>	<p>Exhibition by the trainer of the different materials and cutting tools, phases of the supply chain in the manufacture of footwear. Demonstration by the trainer of scaling techniques and making scandals. Formulation of verbal questions to check the understanding of what has been explained. Practical scaling activities to check the compression of the explained. Visits to companies that manufacture lasts, soles, plants and tanned skins Realization of final module exam with theoretical and practical part to evaluate the evaluation criteria established in the module.</p>	<p>Classroom with chairs, tables and projector for explanation of theoretical part. Classroom workshop with computer equipment, cutting materials and tools necessary for manual cutting. The computer equipment has applications installed for the cutting and pattern of footwear.</p>

Module 4: CAD techniques for pattern design and application to material cutting

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Identify and enumerate the different types of scanning tools. CE 1.1 Identify 2D scanning tools and their application. CE 1.2 Identify 3D scanning tools and their application. CE 1.3 Identify existing alternatives for scanning.</p> <p>C2: Perform the pattern and scale with the Caligola tool. C2.1: Perform the digital pattern of the different types of footwear with the Caligola tool. C2.2: Perform digital scaling of the different types of footwear with the Caligola tool.</p> <p>C3: Prepare the technical sheet of the footwear. C3.1: Identify the minimum required fields of a technical sheet. C3.2: Successfully complete the technical sheet. C3.2: Perform updates of the technical sheet.</p> <p>C4: Identify the considerations to the automatic cutting of skins, synthetics and fabrics. CE4.1: Identify and enumerate the considerations to automatic skin cutting. CE4.1: Identify and enumerate the considerations to the automatic cutting of synthetics. CE4.1: Identify and enumerate the considerations to automatic tissue cutting.</p>	<p>4.1 Scanning tools: 3D 2D 3D. Alternatives</p> <p>4.2 Pattern and scale with Caligola tool</p> <p>4.3 Preparation and updating of technical data sheets</p> <p>4.4 Considerations for the automatic cutting of skins, synthetics and fabrics</p>	<p>Exhibition by the trainer of the different tools for 2D and 3D scanning and considerations for the automatic cutting of skins, synthetics and fabrics. Demonstration by the trainer of scaling and pattern techniques with the Caligola tool. Demonstration by the trainer of the elaboration of a technical file of footwear. Formulation of verbal questions to check the understanding of what has been explained. Practical activities of scaling and patterning to check the compression of the explained. Realization of final module exam with theoretical and practical part to evaluate the evaluation criteria established in the module.</p>	<p>Classroom with chairs, tables and projector for explanation of theoretical part. Classroom workshop with computer equipment, cutting materials and tools necessary for manual cutting. The computer equipment has applications installed for the cutting and pattern of footwear.</p>



Through the unification and adaptation of the training programs FOOTWEAR OPERATOR - CUTTING and FOOTWEAR OPERATOR - PATTERN MAKER courses, a 360 hour course has been obtained, less than the sum of the 2 courses of the Calzaturiero Polytechnic. The new adapted course has 4 training modules in which the most appropriate material for the training demand of the footwear sector of the Region of Murcia has been selected.

3.3 MOUNTING AND FINISHING FOOTWEAR PROGRAM

Polytechnic Calzaturiero has a training course in its training catalog with the training program shown below:

FOOTWEAR OPERATOR – ASSEMBLY

In the context of the shoe production, one of the most important phases is the assembly one.

In this part of the shoe production, the expert is responsible to execute the pre-assembly operations, to perform manual operations of lasting the upper over the last, to apply the sole and the heel and to perform final control operations.

The operator coordinate and develop the whole process to assembly with cementing construction methods according to the model type and respecting the footwear quality requirements.

AIMS OF THE COURSE:

The course aims to provide the basic skills for assembly a shoe. At the end of the training the student has learnt:

- Organization of the workplace
- Footwear components: insole, sole, shank, toe cap
- Raw materials characteristics and behaviours: leather, etc.
- Processes of construction luxury footwear
- Tools for working: cobbler's knife, cutter, plier, hammer,
- Types of glues and mastics
- Proceeding manually for glue - mastic application
- Proceeding manually for insole application
- Proceeding manually for stiffener preparation and application
- Recognize different models and their construction methods
- Identify different types of last: square, oval
- Working tools
- Proceeding manually for upper's lasting over the last with temporary nails
- Proceedings, manual, of trimming, roughing, flattening, levelling and smoothing surfaces
- Proceeding manually to apply the hard tip toe
- Proceeding manually to obtain a good edge in the contour of the upper

Applicants: Employed or unemployed people interested in acquiring the basic skills to assembly shoes by machine.

ACTIVITIES – DESCRIPTION OF THE PROFILE

Assembling: To perform manually all the assembling operations namely Cemented construction.

- 1) To apply the insole on the last and to apply the stiffener to the upper.

<p>Knowledge</p>	<p>Organization of the workplace</p> <p>Footwear components: insole, sole, shank, toe cap</p> <p>Raw materials characteristics and behaviours: leather,</p> <p>Processes of construction luxury footwear</p> <p>Tools for working: cobbler's knife, cutter, plier, hammer,</p> <p>Types of glues and mastics</p> <p>Proceeding manually for glue mastic application</p> <p>Proceeding manually for insole application</p> <p>Proceeding manually for stiffener preparation and application</p>
<p>Skills/ competence s</p>	<p>To be able to recognize different models and their construction methods</p> <p>To be able to identify different types of last</p> <p>To be able to identify and characterize different types of reinforcements used in pre-assembly stage</p> <p>To be able to plan the operations for a specific model of pre assembly stage: insole, stiffener and tip toe</p> <p>To be able to execute manually the correct application of the insole on the last considering the exact points where to put the nails on the last's bottom</p> <p>To be able to execute, manually, the correct cut, preparation and application of the stiffener</p> <p>To be able to check the correct result of the operations carried out considering the standard of luxury shoes</p>

2) To apply the hard tip toe - to last upper on wooden last

<p>Knowledge</p>	<p>Organization of workplace</p> <p>Recognize different models and their construction methods</p> <p>Identify different types of last: square, oval,</p> <p>Footwear components</p> <p>Working tools</p> <p>Proceeding manually for upper's lasting over the last with temporary nails</p> <p>Proceedings, manual, of trimming, roughing, flattening, levelling and smoothing surfaces</p> <p>Proceeding manually for glue –mastic application</p> <p>Proceeding manually to apply the hard tip toe</p> <p>Proceeding manually to obtain a good edge in the contour of the upper</p>
<p>Skills/competences</p>	<p>To be able to realize the verification of the symmetry and measures of upper in comparison with the wooden last</p> <p>To be able to perform, manually, with the working tools, the lasting of the upper on the wooden last by stretching the front, the side and the rear of the upper folded on the last</p> <p>To be able to execute manually, the correct cut, preparation and application of the hard tip toe on the front part of the lining</p> <p>To be able to perform the verification of the symmetry of the assembled upper and the perfect adherence</p> <p>To be able to perform the flattening, levelling and smoothing of the bottom of the last where is the folded edge of upper, to obtain a good edge</p> <p>To be able to execute the drying of the upper on the last, even for several days, in order to allow the adaptation of the upper and reinforcements, to the wooden last</p> <p>To be able to perform the positioning and application of the shank</p>

	To be able to check the correct result of the operations carried out considering the standard of luxury shoes
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3) To apply the sole

Knowledge	<p>Organization of the workplace</p> <p>Footwear components: insole, sole, shank, toe cap</p> <p>Raw materials characteristics and behaviours: leather, etc.</p> <p>Process of construction luxury footwear</p> <p>Tools for working: cobbler's knife, cutter, plier, hammer,</p> <p>Types of glues and mastics</p> <p>Proceeding manually for glue or mastic application</p> <p>Proceeding manually for insole application</p> <p>Proceeding manually for stiffener preparation and application</p>
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<p>Skills/ competence s</p>	<p>A) <u>CLASSIC OPTION</u></p> <p>To be able to perform the cut of a piece of rump with the cutter</p> <p>To be able to perform the roughing of the sole in order to obtain a good profile on the edge of upper profile</p> <p>To be able to perform the smear of glue on the sole and on the bottom</p> <p>To be able to realize, by hand, the application of the leather sole and then press it with the hammer</p> <p>To be able to perform, by hand, the roughing the bottom of sole to increase the contact surface area and facilitating the anchoring of the glue</p> <p>To be able to perform, by hand, the rough rounding of the edge of sole to the specific shape of the last</p> <p>To be able to perform the finishing of the edge of the sole</p> <p>To be able to check the correct result of the operations carried out considering the standard of luxury shoes</p> <p>B) <u>WELT OPTION</u></p> <p>To be able to perform, by hand, the cut of a strip of leather from a pieces of rump</p> <p>To be able to perform the skiving and jaggging of the welt</p> <p>To be able to perform the spreading of glue of the welt and to paste it along the edge of insole</p> <p>To be able to perform the filling of the bottom with a piece of leather</p> <p>To be able to return to the third step of classic shoe option and continue with subsequent operations</p>
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STRUCTURE OF THE COURSE – MODULES AND DURATION

With the course, the student will know about the following issues (modules):

- Main processes of a shoe factory and production phases
- Understand the design/pattern-making process of a shoe model
- The leather: types, characteristics and defects (instructional handouts will be provided)
- The main components: function and features and related technical documentation (instructional handouts will be provided)
- Machines and equipment for the assembly cycle (information on the technical phases will be provided)
- Finishing machines

TOTAL DURATION

80 hours: mixed between theory and practice

Partiendo del programa formativo del curso de aparado de Politécnico Calzaturero mostrado anteriormente y tras un análisis de las necesidades del sector del calzado en la región de Murcia, se ha adaptado dando lugar un nuevo plan formativo que se utiliza como base para la presentación de una nueva especialidad al SEF y se muestra a continuación:

MOUNTING AND FINISHING FOOTWEAR

Objective: Assembled both by hand and by machine of simple models of footwear such as camping, Valencian, Oxford shoe and others ... using different types of products and materials that increase the productivity and quality of the final product in optimal conditions of occupational safety.

Prescription of the trainers:

Degree required:

School graduate, FPI Leather and leather, FPGM Technician in Footwear Manufacturing and Fashion Accessories, or other training related to the occupation

Professional experience required:

At least one year of professional experience related to the specialty. In the case of not accrediting the required degree, 3 years of professional experience will be required.

Teaching competence:

Have methodological training or teaching experience of at least 100h. or experience in training workers in the minimum job of 1 year.

Student access criteria:

Academic level or general knowledge:

No studies

Number of participants:

Maximum 15 participants for face-to-face courses.

Sequential relationship of training modules:

- Application of stop, buttress and template

- Manual and craftsman assembled. Techniques and Applications
- Machine mounted. Variants and machinery
- Dreaming techniques.
- Quality and aesthetics in shoe finishing

Duration: 340 hours

Minimum requirements for spaces, facilities and equipment

Training space:

Training space	15 students	Equipment
Multipurpose Classroom	45m2	Blackboard. Teacher PC Projector. Teaching table and chair and students. 1 Full job position for teacher. 1 Reactivated equipment 1 Tip centering equipment 1 Equipment for heels and coats 1 grinding brush

Training space:

The elements and tools necessary for the correct development of the course: lasts, templates, soles, jaws, tweezers, hammer, etc ...

Access to practical machinery

Classification of occupations

Code and denomination.

- 78371189 HANDLERS, TEMPLATES AND / OR TALONETS, HAND
- 78371161 FOOTWEAR MOUNTS
- 78371116 SHOE SANDERS WITH ROLLER, HAND
- 78371022 HAND FOOTWEAR FINISHERS
- 78371219 COMPLETE REPAIRERS (SHOE PACKAGING)

TRAINING MODULES

MODULE 1

Denomination: Footwear in the region of Murcia. Notions, typologies and references. Factory Organization
 Security elements. Sustainability

Objective: To provide generic knowledge about the types of footwear produced in the Region and the basic norms of safety and efficiency at work.

Duration: 25 hours

Theoretical-practical contents:

- 1.1 The Footwear in the Region of Murcia. History, evolution and trends
- 1.2 The production route. Variants Techniques for productivity improvement
- 1.3 Basic security measures
- 1.4 Sustainability and waste management

MODULE 2

Denomination: Preassembled.

Objective: Prepare the cut by applying the reinforcements and specific adhesives to prop it up and mount it on the last.

Duration: 50 hours

Theoretical-practical contents:

- 2.1 The Last. Observation and schematization
- 2.2 Bumpers, buttresses, changes and other reinforcements. Marked and figurative
- 2.3 Types of adhesives. Treatment and precautions. Ecological adhesives Application and reactivated
- 2.4 Machinery for the application of stops and buttresses. Conformed
- 2.5 Application to different types of shoes: Valencian, ballroom, boot

MODULE 3

Denomination: Manual mounted on last

Objective: To know the basic techniques of manual assembly and the different tools involved in it.

Duration: 75 hours

Theoretical - practical contents:

- 3.1 Materials, tools and assembly practice
- 3.2 Mounting the cut in the last manually according to technical specifications of the product and quality principles
- 3.3 Adjustment by application of heat and cold. Results depending on the material
- 3.4 Sanding and comforting on different types of soles

MODULE 4

Denomination: Mechanical mounted

Objective: Know the basic techniques of mechanical assembly and the different tools involved in it.

Duration: 130 hours

Theoretical - practical contents:

- 4.1 Study of the centering machines for tips, heels and fittings. Features and basic maintenance
- 4.2 Theory and practice of mechanical assembly in the different types of espadrilles, shoes and boots
- 4.3 Demolished, sanded and prepared for the solefacing of the machine-mounted shoe
- 4.4 Heels, variants and methodology
- 4.5 Sole mounting. Techniques

MODULE 5

Denomination: Shoe finishing and packaging

Objective: Recognize and use the different tools for shoe finishing as well as additives and creams to be used in each case

Duration: 60 hours

Theoretical - practical contents:

- 5.1 Knowledge of packaging tools: brushes, crepe rubber, dyes, creams and irons
- 5.2 Repair, cleaning and shoe enhancement techniques
- 5.3 Packaging, pernitos, paper and bags

DIDACTIC PLANNING OF THE COMPLETE COURSE

MODULE	HOURS OF THE MODULE	TRAINING UNITS	HOURS
Module 1 Footwear in the region of Murcia. Notions, typologies and references. Factory Organization Security elements. Sustainability	25 hours	1.1 The Footwear in the Region of Murcia. History, evolution and trends	5
		1.2 The production route. Variants Techniques for productivity improvement	5
		1.3 Basic security measures	10
		1.4 Sustainability and waste management	5
Module 2 Preassembled	50 hours	2.1 The Last. Observation and schematization	10
		2.2 Bumpers, buttresses, changes and other reinforcements. Marked and figurative	10
		2.3 Types of adhesives. Treatment and precautions. Ecological adhesives Application and reactivated	10

		2.4 Machinery for the application of stops and buttresses. Conformed	10
		2.5 Application to different types of shoes: Valencian, ballroom, boot	10
Module 3 Manual mounted on last	75 hours	3.1 Materials, tools and assembly practice	15
		3.2 Mounting the cut in the last manually according to technical specifications of the product and quality principles	20
		3.3 Adjustment by application of heat and cold. Results depending on the material	20
		3.4 Sanding and comforting on different types of soil	20
Module 4 Mechanical mounted	130 hours	4.1 Study of the centering machines for tips, heels and fittings. Features and basic maintenance	25
		4.2 Theory and practice of mechanical assembly in the different types of espadrilles, shoes and boots	35
		4.3 Demolished, sanded and prepared for the solefacing of the machine-mounted shoe	35
		4.4 Heels, variants and methodology	15
		4.5 Sole mounting. Techniques	20
Module 5 Shoe finishing and packaging	60 hours	5.1 Knowledge of packaging tools: brushes, crepe rubber, dyes, creams and irons	20
		5.2 Repair, cleaning and shoe enhancement techniques	25
		5.3 Packaging, pernitos, paper and bags	15

LEARNING MATERIALS

Under the supervision of the Calzaturiero Polytechnic, the teaching material consisting of:

- Development of the theoretical part of the training modules of the course that are delivered to each student for consultation.

- Audiovisual material as demonstration videos of the different tasks elaborated together with Polytechnic Calzaturiero.
- Classroom workshop with the tools used in the assembly process to acquire the necessary knowledge imparted in the training action.
- Power Point Presentations
- Parts of the shoe for assembly and finishing.
- Individual course plan
- Exercises
- The course has an e-learning website at the address at www.calzia.es where the teaching material used in each course is located.

SPECIFIC OBJECTIVES AND LEARNING STRATEGIES

Module 1: Footwear in the region of Murcia. Notions, typologies and references. Factory Organization Security elements. Sustainability

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Know the history of footwear in the Region of Murcia. CE 1.2: Describe the history of footwear in the Region of Murcia, its trends and evolution.</p> <p>C2: Identify and enumerate the characteristics of the production route and its variants. CE 2.1: Identify the different variants of the production pathways. CE 2.2: List the different techniques for improving productivity.</p> <p>C3: Identify basic security measures. CE 3.1: Apply security measures according to the functions performed.</p> <p>C4: Know the concept of sustainability and perform good waste management. CE 4.1: Describe the concept of sustainability CE 4.2: List the techniques and procedures to perform proper waste management.</p>	<p>1.1 The Footwear in the Region of Murcia. History, evolution and trends 1.2 The production route. Variants Techniques for productivity improvement 1.3 Basic security measures 1.4 Sustainability and waste management</p>	<p>Exhibition by the trainer of the history of footwear in the Region of Murcia, characteristics of the production route, safety measures, sustainability and waste management. Formulation of verbal questions to check the understanding of what has been explained. Practical activities to check the understanding of what has been explained. Realization of final module exam with theoretical and practical part to evaluate the evaluation criteria established in the module.</p>	<p>Classroom with chairs, tables and projector for explanation of theoretical part. Classroom workshop with materials and tools (brushes, crepe rubber, dyes, creams, irons, lasts) for manual assembly and machining, and finishing the shoe.</p>

Module 2: Preassembled

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: List characteristics of the last and its types. CE 1.1: Identify and describe the main characteristics of the last. CE 1.2: Identify and describe the main types of lasts.</p> <p>C2: Identify the types of existing reinforcements, as well as perform marking and figuration techniques CE 2.1: identify and know the characteristics of the stops. CE 2.2: identify and know the characteristics of buttresses. CE 2.3: identify and know the characteristics of the changes. CE 2.4: identify and know the characteristics of other reinforcements. CE 2.5: Correctly perform the marking technique. CE 2.6: Perform the figurative technique correctly</p> <p>C3: Identify the different types of adhesives. CE 3.1: List the different treatments with adhesive. CE 3.2: You identify the different precautions to be taken into account with the adhesives. CE 3.3: You identify the characteristics of ecological adhesives. CE 3.4: Properly apply the adhesive. CE 3.4: Describe the characteristics of the reactivated.</p> <p>C4: Identify and enumerate the characteristics of the different machines for the application of stops and buttresses. CE 4.1: List the types of machinery for application of reinforcements. CE 4.2: Describe the characteristics of each of them.</p>	<p>2.1 The Last. Observation and schematization 2.2 Bumpers, buttresses, changes and other reinforcements. Marked and figurative 2.3 Types of adhesives. Treatment and precautions. Ecological adhesives Application and reactivated 2.4 Machinery for the application of stops and buttresses. Conformed 2.5 Application to different types of shoes: Valencian, ballroom, boot</p>	<p>Exhibition by the trainer of the different forms, reinforcements, adhesives machinery for reinforcement application. Demonstration by the trainer of the application techniques to different types of shoes: Valencian, ballroom, boot. Formulation of verbal questions to check the understanding of what has been explained. Practical activities mounted on the different types of shoes. Realization of final module exam with theoretical and practical part to evaluate the evaluation criteria established in the module.</p>	<p>Classroom with chairs, tables and projector for explanation of theoretical part. Classroom workshop with materials and tools (brushes, crepe rubber, dyes, creams, irons, lasts) for manual assembly and machining, and finishing the shoe.</p>



<p>C5: Apply mounting techniques to different types of shoes. CE 5.1: Apply the technique of mounted on the Valencian type shoe. CE 5.2: Apply the technique of mounted on the shoe type lounge. CE 5.3: Apply the technique of mounted on the ballerina shoe. CE 5.4: Apply the technique of mounted on the boot type shoe.</p>			
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Module 3: Manual mounted on last

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Identify the different materials, tools and assembly practices. CE 1.1: Identify and describe the characteristics of the main mounting materials. CE 1.2: Identify and describe the characteristics of the main assembly tools.</p> <p>C2: Identify and describe the phases of the cutting assembly in the last manually. CE 2.1: Describe the phases of the cutting assembly in the last according to the technical specifications of the product. CE 2.2: Describe the phases of the assembly of the cut in the last according to quality principles.</p> <p>C3: Adjust the mounting of the shoe by applying cold and heat depending on the material. CE 3.1: Apply the heat and cold necessary for adjustment in the assembly correctly. CE 3.2: Describe the result of the application of cold and heat in the different materials.</p> <p>C4: Sanding and assembling the sole on different types of shoe shoe floor CE 4.1: Make a correct application of the sanding technique on different types of shoe shoe floor. CE 4.2: Make a correct application of the sole mounting technique on different types of shoe shoe floor.</p>	<p>3.1 Materials, tools and assembly practice</p> <p>3.2 Mounting the cut in the last manually according to technical specifications of the product and quality principles</p> <p>3.3 Adjustment by application of heat and cold. Results depending on the material</p> <p>3.4 Sanding and mounting the sole on different shoe floor types</p>	<p>Exhibition by the trainer of the different materials, tools and assembly practices. Demonstration by the trainer of the assembly techniques, adjustment by heat and cold, sanding and mounting of the sole. Formulation of verbal questions to check the understanding of what has been explained. Practical activities of adjustment by heat and cold, sanding and assembling the sole. Realization of final module exam with theoretical and practical part to evaluate the evaluation criteria established in the module.</p>	<p>Classroom with chairs, tables and projector for explanation of theoretical part. Classroom workshop with materials and tools (brushes, crepe rubber, dyes, creams, irons, lasts) for manual assembly and machining, and finishing the shoe.</p>

Module 4: Mechanical assembly

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Identify the different machines used in the assembly process, know their characteristics and basic maintenance. CE 1.1 Identify the different centering machines for tips, heels and enfranches. CE 1.2 Describe the main characteristics of the centering machines for tips, heels and fittings. CE 1.3 Carry out the basic maintenance of the centering machines for tips, heels and fittings.</p> <p>C2: Describe and apply the technique of mechanical assembly in the different shoes. C2.1: Correctly perform the technique of mechanical assembly in the different shoes. C2.2: Describe correctly the technique of mechanical assembly in the different shoes.</p> <p>C3: Describe and apply the technique of refolding, sanding and prepared for the assembly of the sole of the machine-mounted shoe. C3.1: Correctly perform the rebutting technique. C3.2: Describe the phases of the rebutting technique. C3.3: Perform the sanding technique correctly. C3.4: Describe the sanding technique phases. C3.5: Perform the preparation technique correctly. C3.6: Describe the phases of the preparation technique.</p> <p>C4: Identify the different types of heels and their variants. CE4.1: Identify and enumerate the different types of heels.</p>	<p>1.0 Study of the centering machines of tips, heels and fittings. Features and basic maintenance</p> <p>1.1 Theory and practice of mechanical assembly in the different types of espadrilles, shoes and boots</p> <p>1.2 Rebatido, sanded and prepared for the assembly of the sole of the machine-mounted shoe.</p> <p>1.3 Heels, variants and methodology</p> <p>1.4 Mounted sole. Techniques</p>	<p>Exhibition by the trainer of the different machines for assembly and their application and maintenance. Demonstration by the trainer of the maintenance of the different machines used in the assembly, of the technique of mechanical assembly. Demonstration by the shaper shaper, sanded and prepared for the assembly of the sole of the machine-mounted shoe. Formulation of verbal questions to check the understanding of what has been explained. Practical activities of sanding, rebate and prepared for mechanical assembly. Realization of final module exam with theoretical and practical part to evaluate the evaluation criteria established in the module.</p>	<p>Classroom with chairs, tables and projector for explanation of theoretical part. Classroom workshop with materials and tools (brushes, crepe rubber, dyes, creams, irons, lasts) for assembling and finishing the shoe.</p>



<p>CE4.2: Identify and enumerate the different existing variants. CE4.3: Identify and enumerate the different methodologies.</p> <p>C5: Know the different techniques of assembling the sole. CE5.1: Identify and enumerate the different techniques of assembling the sole. CE5.2 Apply different sole mounting techniques.</p>			
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Module 5: Shoe Finishing and Packaging

Specific objectives Achievement of the learning outcomes expressed in the evaluation capacities and criteria	Contents	Methodological strategies, learning activities and teaching resources	Spaces, facilities and equipment
<p>C1: Know the different packaging tools. CE 1.1 Identify the different packaging tools (brushes, crepe rubber, dyes, creams and irons) and their characteristics.</p> <p>C2: Know and apply repair, cleaning and shoe enhancement techniques. C2.1: Carry out the shoe repair correctly. C2.2: Perform shoe cleaning correctly. C2.3: Correctly perform shoe enhancement.</p> <p>C3: Know and perform the shoe packaging process. C3.1: Correctly perform shoe packaging. C3.2: Describe the different materials used in shoe packaging.</p>	<p>5.1 Knowledge of packaging tools: brushes, crepe rubber, dyes, creams and irons</p> <p>5.2 Repair, cleaning and shoe enhancement techniques</p> <p>5.3 Packaging, pernitos, paper and bags</p>	<p>Exhibition by the trainer of the different packaging tools. Demonstration by the trainer of the maintenance of the different repair techniques. Cleaning and shoe enhancement. Demonstration by the packaging process maker. Formulation of verbal questions to check the understanding of what has been explained. Practical activities of repair, cleaning, enhancement and packaging of the shoe. Realization of final module exam with theoretical and practical part to evaluate the evaluation criteria established in the module.</p>	<p>Classroom with chairs, tables and projector for explanation of theoretical part. Classroom workshop with materials and tools (brushes, crepe rubber, dyes, creams, irons, lasts) for assembling and finishing the shoe.</p>



After carrying out a study of the knowledge requirements of the workers for the assembly and finishing functions by the companies, it has been decided to go deeper into the different subjects proposed in the training plan of the assembly and finishing course of the training catalog of the Politécnico Calzaturiero, giving rise to a new 340-hour course as opposed to 80 hours of the Polytechnic course, in which the most commonly used assembly and finishing techniques by companies in the footwear sector in the Region of Murcia are taught in detail .

4. CONCLUSIONS

After the pilot experience of the first training course, we can affirm that this training strategy (C-VET) can be the way to go now to make a correct implementation of the training that this sector needs.

Recently, we have obtained the approval by the SEF of the training specialty requested for the “Cutting and pattern making” course, so in a short time it will be available for students. Until November 2019, the announcements proposed by the SEF to request training courses for future teaching are not available.

Currently, we have made the adaptation of the training program of the “Mounting and finishing of footwear” course provided by the Calzaturiero Polytechnic for its presentation to the SEF as a new specialty.

We hope that the combination of all these new specialties will give rise to an important learning strategy for training actions that contains the most demanded aspects of work in the footwear sector.