MIGUEL ALTUNA
Lanbide Heziketa

Your Bridge

EDUCATIONAL RESOURCES

www.maltuna.eus

MIGUEL ALTUNA
Lanbide Heziketa

The Miguel Altuna LHII is a Joint State Vocational School. Qualified professionals are here trained dynamically, encouraging talent based on each student´s personal development.

Collaborative methodologies are continually adapted in order to obtain updated and progressive knowledge. As social agents, our objectives aim at fulfilling society´s and companies´ commitments through all the resources at hand.

Your Bridge

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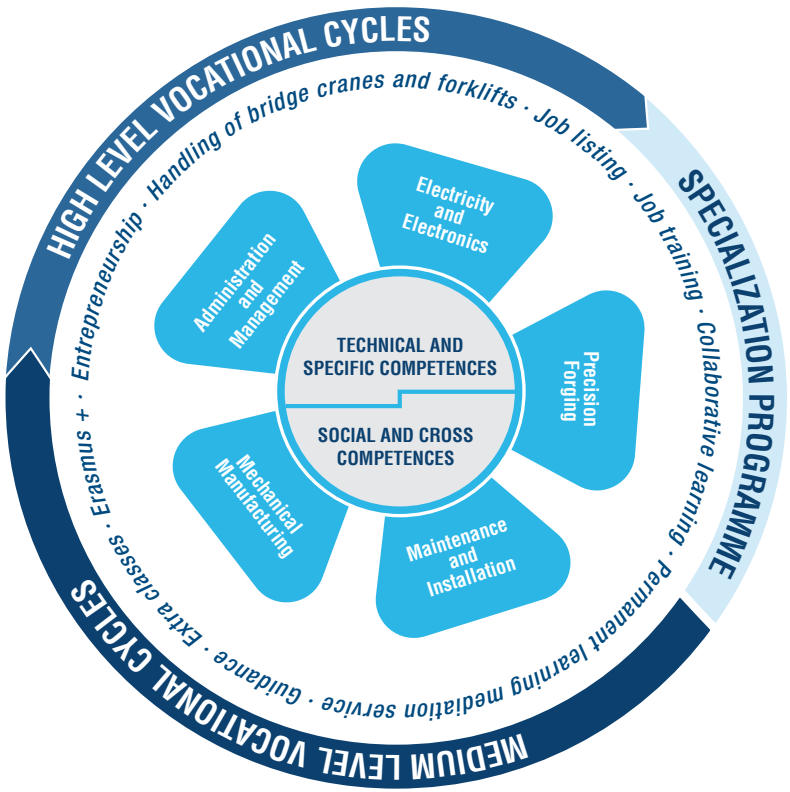
CONTENTS

01 Characteristics	4
01.1 Presentation	
01.2 ETHAZI model	6
01.3 DUAL Vocational Training	8
01.4 Modalities	
02 Medium Level Vocational Training	12
03 High Level Vocational Training	26
04 Specialization programme	48

01.1 Presentation

The mission of Miguel Altuna LHII is to offer quality multilingual teaching based on consensual ideas of the school community, which answers to:

Students, according to their capacities and needs facilitating the idea of autonomy and personal commitment. Companies and the social surroundings, adding to the qualifications of workers and unemployed people in Bergara and its surroundings.



MIGUEL ALTUNA

YOUR BRIDGE

Medium Level
- High Level
- Working World

High Level
- Specialization
- University
- Working World

Your Choice!

01.2 ETHAZI Model High Performance Cycle

The core element on which the whole learning model is articulated deals with the collaborative learning based on challenges.

The approach of a problematic situation, its transformation towards a challenge, as well as the whole process till obtaining a result is structured starting from the technical and specific competences of each cycle, including those transversal competences which have right now a strategic character, such as: autonomy, implication, communication etc.

The problematic situations, in all cases, are raised to a class configured in teams, where the work process must enable the students live the situation like a challenge, and from that point on, have the opportunity to generate the necessary knowledge that allows him-her to provide the best solutions.

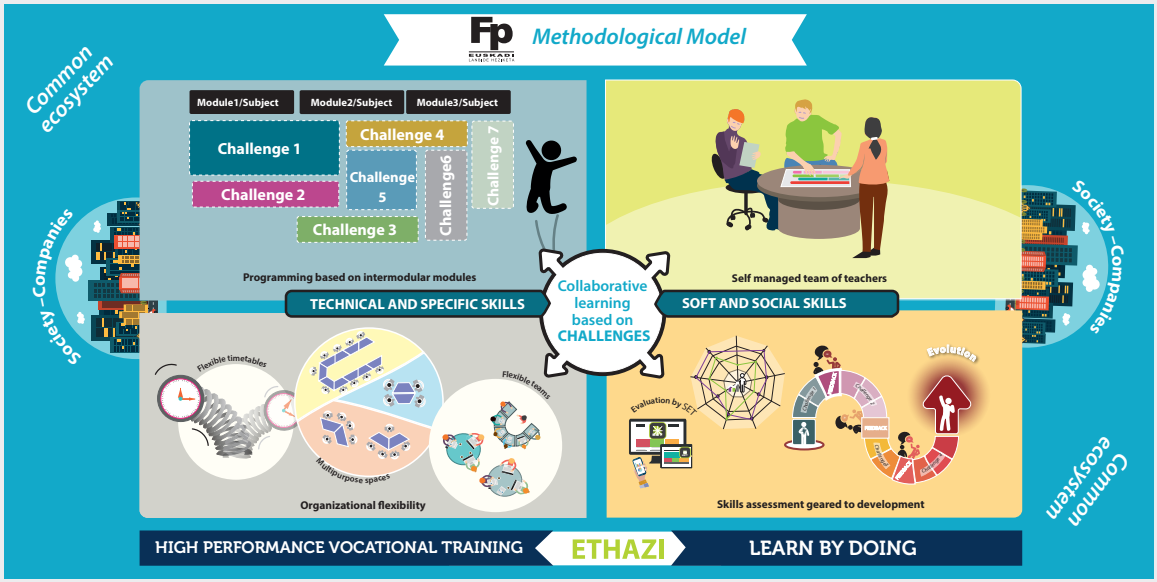
Characteristics

Challenges among different modules.

Assess to be able to evolve in the competence development.

Teaching team of self-managed cycles.

Adaptation of learning areas.



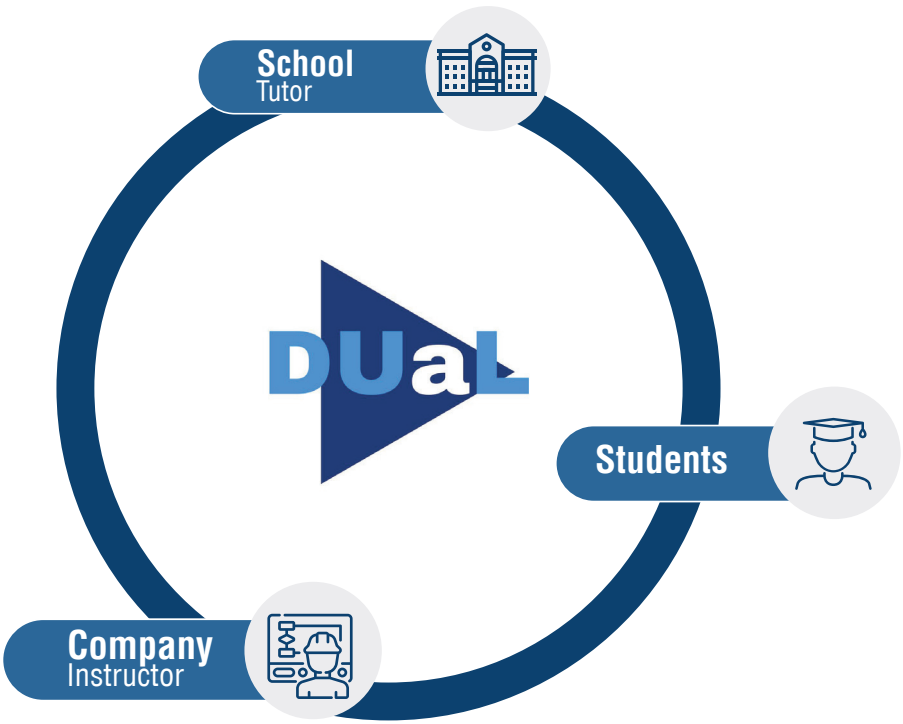
01.3 The DUAL Vocational Training

What is it?

The DUAL Vocational Training is a modality that alternates the processes of teaching and learning both in the company and in the Miguel Altuna LHII training center.

Why The DUAL Vocational Training?

The cooperation between the Educational System and the Professional System can be seen as something even more necessary, especially taking into account the changes on the business models lately, on the evolution of a widely internationalized market and on the consolidation of a developing social mobility.





How it works

It´s a model that enables improve employability, since students are allowed to be really in touch with a job, getting experience and professional competitivity and a greater integration between theory and practice, as the training center is not the only source of knowledge, and it turns knowledge into a dynamic and effective model.

Not only receives the student orientations from the academic tutor at Miguel Altuna, but also from the associated company´s instructor, in order to make practical work in which to apply directly the acquired theoretical knowledge at Miguel Altuna LHII.

The relationship is formalized through a training and learning work contract or a scholarship. It makes easier the incorporation of young people into the labour market through quality employability.

Advantages of a DUAL Vocational Training

For the students

- To learn in real work situations, acquiring professional experience for at least a year.
- To receive a remuneration proportional to work time according to contract or agreement.
- To improve employability.
- To start his-her professional life contributing to Social Security.

For the Company

- To prepare qualified staff adapted to its needs and trained on its processes and business culture.
- To facilitate the generational change on the company.
- As a tool to select and recruit staff.
- Economic incentives-compensation.

More information:
www.maltuna.eus

01.4 Modalities and linguistic models

Modalities



USUAL SCHEDULE

2 years, in the morning.

PART-TIME OPTION

Option to complete the cycle by modules.

DUAL Vocational Training

The second year of the cycle alternates with the stay on a company together with the assistance to class at Miguel Altuna.

Further training

AT YOUR DISPOSAL

Handling of bridge cranes and forklifts.

Reinforcement English classes.

Labour risk prevention.



Today´s students, tomorrow´s professionals

Linguistic model

D MODEL

All modules in Basque

* ***Student acquires the Basque Intermediate level certificate(B1)**, when finishing the Medium Level Vocational Cycle.*

* ***Student acquires the Basque Advanced level certificate (B2),** when finishing the High Level Vocational Cycle.*

B+ MODEL

All modules in Spanish, with the possibility of doing some in Basque.

TRILINGUAL

Some modules in English.

Companies partnerships

More than 400 agreements signed with local and international companies.

PLACEMENTS

Near home.

In a foreign country (Erasmus +).

DUAL VOCATIONAL TRAINING

It offers the possibility to acquire a year professional experience while studying.

Your choice!

At everybody´s reach

We have facilities suitable for the new times, equipment, machinery and last generation devices. Room areas that ease the learning process.

We also have multipurpose rooms, that is to say spaces which adapt to each moment´s needs.

Use of facilities

Personal employment and orientation agency

Employment training aimed at workers and unemployed
www.maltuna.eus

Intermediation Service in lifelong learning

Competences recognition device

Promotion of entrepreneurship: Ikasenpresa and Urratsbat

Cooperation with different agents

For the ex-student



Collaboration with companies

TKGUNE: Technical services for improvement and innovation

Industrial entre-preneurship

Companies networks participants

Support and development for Innovation Projects

Answer to workers needs

Training according to demand

DUAL Vocational Training

Internationalization

Job Listing
www.lanpoltsa.eus

We work closely with companies in Debagoiena as well as in the surroundings. Through the signed 400 collaboration agreements, we assure placements at close by companies for the place of residence of the students, the DUAL model allows to train and work in alternation, we offer custom-made employment training and we offer services according to these companies needs.

In order to support these work lines, we take part in different networks, in the Basque Country as well as worldwide.



Medium Level
Vocational Training

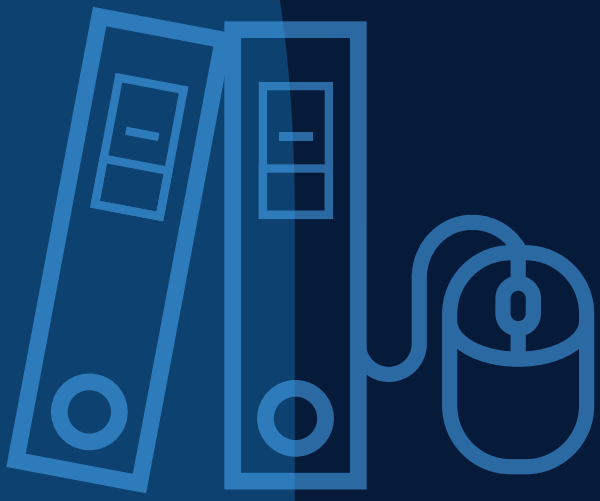
02

Administration Management 14

Electrical and Automatic Facilities 18

Machining 22

Administration Management Technician



Administration Management
Technician

FIELD: Administration and management.
NUMBER OF COURSES: Usual schedule, in the morning: 2 courses.
METHODOLOGY: Collaborative learning based on challenges.

DURATION
2.000 HOURS
(At school and at the company)

ACCESS CONDITIONS:

- Basic Vocational Training passed.
- E.S.O passed.
- R.E.M first cycle passed.
- B.U.P second course passed.
- FP I (Vocational Training) certificate.
- A Medium level Vocational Training Cycle passed (technician certificate).
- Access test to Medium Level.



CURRICULUM

PROFESSIONAL MODULE	HOURS	YEAR
0437. Company communication and customer service	165	1st
0438. Trading administrative operations	132	1st
0440. Ofimatic information processing	264	1st
0441. Accounting	132	1st
0442. Human Resources administrative operations	132	1st
0156. English	165	1st
0439. Business and Administration	105	2nd
0443. Accounts documentation Management	105	2nd
0446. Company simulation	168	2nd
0448. Cash management assistance	147	2nd
0449. Career training and guidance	105	2nd
0451. Work Placement	380	2nd
TOTAL CYCLE	2.000	

YOU CAN CHOOSE:

Possibility to have a placement abroad with the Erasmus+ programme.

Possibility to accomplish DUAL Vocational Training:

Modality that allows students to alternate school training and company training.

FURTHER TRAINING

Students enrolled on this vocational cycle may receive further training to choose from:

- Forklift handling.
- Bridge crane handling.
- English extra classes.
- The knowledge needed to carry out labour risk prevention basic level activities.

WHAT AM I GOING TO LEARN AND DO?

This professional will be able to:

- Process documents or internal and external communications in the information circuits of the company.
- Create documents and communications from received orders and acquired information.
- Classify, register and file communications; documents according to the appropriate techniques and the established parameters of the company.
- Register for accounting purposes the support documentation corresponding to the operations of the company security and quality like.
- Perform treasury management operations, following the rules and protocols established in the management to maintain the organization´s liquidity.
- Handle selection and human resources' training administrative management, adjusting to current regulations and business policy, under the supervision of the head of the department.
- Give administrative support on the area of labor management of the company adjusting to current regulations under the supervision of the head of the department.
- Perform customer/user service activities on the commercial and administrative field, ensuring the quality levels established and related to the image of the company / institution.

WHEN I FINISH MY STUDIES, WHAT CAN I DO

Students enrolled on this vocational cycle will be able to keep on studying or will have the option to directly access the working world.

1 Keep on STUDYING

- A High Level Vocational Training Cycle.
- Another Medium Level Vocational Training Cycle with the possibility of establishing validations of professional modules according to current regulations.
- A levels in all its modalities.

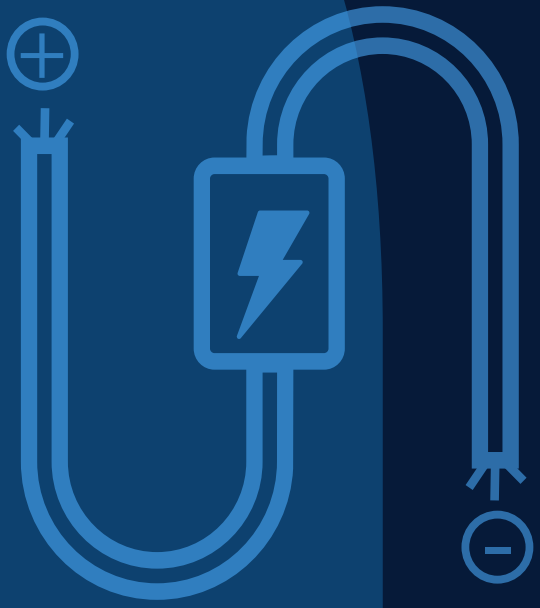
2 CAREER OPENINGS:

- Administration Assistant.
- Office Assistant.
- Receipts and payments Manager.
- Sales Administration.
- Management and Personnel Administration.
- Bank and Financial Institution Administration.
- Receptionist.
- Customer Service supervisor.
- Treasury Supervisor.
- Payments supervisor.

* *"Students enrolled on the D model, once the cycle is finished, acquire the Intermediate level (B1) In Basque".*

More information:
www.maltuna.eus

Electrical and Automatic Facilities Technician



Electrical and Automatic Facilities
Technician

FIELD: Electricity and electronics.
NUMBER OF COURSES: Usual schedule, in the morning: 2 courses.
METHODOLOGY: Collaborative learning based on challenges.

DURATION
2.000 HOURS
(At school and at the company)

ACCESS CONDITIONS:

- Basic Vocational Training passed.
- E.S.O passed.
- R.E.M first cycle passed.
- B.U.P second course passed.
- FP I (Vocational Training) certificate.
- A Medium level Vocational Training Cycle passed (technician certificate)
- Access test to Medium Level.



CURRICULUM

PROFESSIONAL MODULE	HOURS	YEAR
0232. Industrial automatisms	264	1st
0233. Electronics	132	1st
0234. Electrotechnics	198	1st
0235. Indoor electrical facilities	297	1st
0239. Solar photovoltaic facilities	66	1st
E100. Technical English	33	1st
0236. Distribution facilities	105	2nd
0237. Common telecommunication Infrastructures in homes and buildings	105	2nd
0238. Domotic facilities	126	2nd
0240. Electrical machinery	126	2nd
0241. Career training and guidance	105	2nd
0242. Enterprise and entrepreneurship	63	2nd
0243. Work placement	380	2nd
TOTAL CYCLE	**2.000**	

YOU CAN CHOOSE:

Possibility to have a placement abroad with the Erasmus+ programme.

Possibility to accomplish DUAL Vocational Training:

Modality that allows students to alternate school training and company training.

FURTHER TRAINING

Students enrolled on this vocational cycle may receive further training to choose from:

- Forklift handling.
- Bridge crane handling.
- English extra classes.
- The knowledge needed to carry out labour risk prevention basic level activities.

WHAT AM I GOING TO LEARN AND DO?

This professional will be able to:

- Configure and calculate facilities and equipment.
- Assemble the component elements of low voltage distribution networks and auxiliary elements.
- Assemble equipment and pipelines associated with electrical and automated installations and telecommunications infrastructures in buildings.
- Install and maintain rotating and static electric machines.
- Maintain and repair installations and equipment.
- Establish the logistics associated with the assembly and maintenance.
- Prepare budgets, technical documentation and administrative documentation
- Verify the operation of the installation.

This Certificate guarantees the level of knowledge required in the license of authorized installer in low tension, on the basic category as well as on the specialist one.

WHEN I FINISH MY STUDIES, WHAT CAN I DO

Students enrolled on this vocational cycle will be able to keep on studying or will have the option to directly access the working world.

1 Keep on STUDYING

- A High Level Vocational Training Cycle.
- Another Medium Level Vocational Training Cycle with the possibility of establishing validations of professional modules according to current regulations.
- A levels in all its modalities.

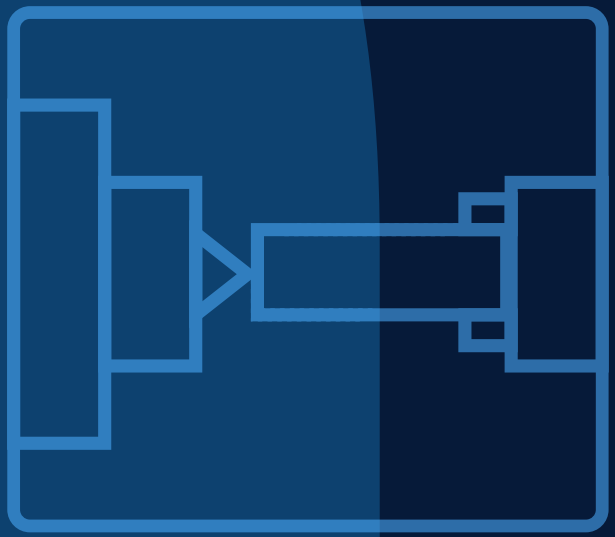
2 CAREER OPENINGS:

- Electrical Line installer.
- Electrical installer in buildings.
- Industrial electrician.
- Maintenance electrician.
- Domotic systems fitter.
- Antenna fitter.
- Telecommunications installer in residential buildings.
- Telephone equipment fitter.
- Installer of photovoltaic solar energy installations.

* *"Students enrolled on the D model, once the cycle is finished, acquire the Intermediate level (B1) In Basque".*

More information:
www.maltuna.eus

Machining Technician



Machining
Technician

FIELD: Mechanical manufacturing.
NUMBER OF COURSES: Usual schedule, in the morning: 2 courses.
METHODOLOGY: Collaborative learning based on challenges.

DURATION
2.000 HOURS
(At school and at the company)

ACCESS CONDITIONS:

- Basic Vocational Training passed
- E.S.O passed
- R.E.M first cycle passed
- B.U.P second course passed
- FP I (Vocational Training) certificate.
- A Medium level Vocational Training Cycle passed (technician certificate)
- Access test to Medium Level.



CURRICULUM

PROFESSIONAL MODULE	HOURS	YEAR
0001. Manufacturing processes	165	1st
0004. Metal cutting manufacturing	363	1st
0005. Automated systems	165	1st
0006. Metrology and testing	132	1st
0007. Graphic interpretation	132	1st
E100. Technical English	33	1st
0002. Machining by numeric control	252	2nd
0003. Manufacturing by abrasion, electro erosion, cutting and forming and by special processes	210	2nd
0008. Career training and guidance	105	2nd
0009. Enterprise and entrepreneurship	63	2nd
0010. Work placement	380	2nd
TOTAL CYCLE	**2.000**	

YOU CAN CHOOSE:

Possibility to have a placement abroad with the Erasmus+ programme.

Possibility to accomplish DUAL Vocational Training:

Modality that allows students to alternate school training and company training.

FURTHER TRAINING

Students enrolled on this vocational cycle may receive further training to choose from:

- Forklift handling.
- Bridge crane handling.
- English extra classes.
- The knowledge needed to carry out labour risk prevention basic level activities.

WHAT AM I GOING TO LEARN AND DO?

This professional will be able to:

- Determine machining processes based on technical information.
- Prepare machinery and systems.
- Program numerical control tools, robots and manipulators.
- Operate machine tools for chip removal, forming to obtain mechanical elements, according to the specifications defined in manufacturing blueprints.
- Verify machined products.
- Perform first level maintenance on machines and machining equipment.
- Apply quality procedures, labour prevention and environmental risks.

WHEN I FINISH MY STUDIES, WHAT CAN I DO

Students enrolled on this vocational cycle will be able to keep on studying or will have the option to directly access the working world.

1 Keep on STUDYING

- A High Level Vocational Training Cycle.
- Another Medium Level Vocational Training Cycle with the possibility of establishing validations of professional modules according to current regulations.
- A levels in all its modalities.

2 CAREER OPENINGS:

- Machine Tool operator/ fitter.
- Metal polisher and tool grinder.
- Metalworking machines operator.
- Tool machines operator.
- Industrial robots operator.
- Tool manufacturing workers, fitters and mechanics, modeler, mold matricer and similar.
- Lathe operator, milling machine operator and boring machine operator.

*

"Students enrolled on the D model, once the cycle is finished, acquire the Intermediate level (B1) In Basque".

More information:
www.maltuna.eus

High Level
Vocational Cycles

03

Administration and Finance 28

Industrial Automation and Robotics 32

Mechanical Manufacturing Design 36

Industrial Mechatronics 40

Production Programming in Mechanical Manufacturing 44

High level Administration and Finance Technician



High level technician.
Administration and Finance

FIELD: Administration and Management.
NUMBER OF COURSES: Usual schedule, in the morning: 2 courses.
METHODOLOGY: Collaborative learning based on challenges.

DURATION
2.000 HOURS
(At school and at the company)

ACCESS CONDITIONS:

· A level certificate.
· R.E.M second cycle or C.O.U passed.
· FP II certificate.
· A Medium level Vocational Training Cycle passed (Technician Certificate).
· Access test to High Level.



CURRICULUM

PROFESSIONAL MODULE	HOURS	YEAR
0648. Human Resources and social cooperative responsibility	99	1st
0649. Ofimatic information processing	231	1st
0650. Integral business activity process	198	1st
0651. Communication and customer service	132	1st
0179. English	132	1st
0652. Human Resources management	99	1st
0658. Career training and guidance	99	1st
0653. Financial management	120	2nd
0654. Accounting and tax systems	180	2nd
0655. Logistics and sales management	80	2nd
0656. Company simulation	120	2nd
0657. Administration and Finance project	50	2nd
0647. Legal and company documentation management	100	2nd
0660. Work placement	360	2nd
TOTAL CYCLE	**2.000**	

YOU CAN CHOOSE:

Possibility to have a placement abroad with the Erasmus+ programme.

Trilingual option:

- Some professional modules in English.
- Priority for internships abroad.
- Opportunity to improve the English level and, at the same time, enrich the CV.

Possibility to accomplish DUAL Vocational Training:

Modality that allows students to alternate school training and company training.

FURTHER TRAINING

Students enrolled on this vocational cycle may receive further training to choose from:

- Forklift handling.
- Bridge crane handling.
- English extra classes.
- The knowledge needed to carry out labour risk prevention basic level activities.

WHAT AM I GOING TO LEARN AND DO?

This professional will be able to:

- Process documents or internal and external communications in the information circuits of the company.
- Elaborate documents and communications from received orders, acquired information and/or identified needs.
- Classify, register and file communications and documents according to the appropriate techniques and the established parameters of the company.
- Manage business administrative procedures in commercial, financial, accounting and tax fields with an integrative vision.
- Accomplish the accounting and tax management of the company, according to the administrative processes and procedures, applying the current regulations and in safety and quality environments.
- Supervise the treasury management, the raising of financial resources and the viability study of inversion projects, according to the established rules and conventions.
- Accomplish the administrative management of the commercial processes, carrying out documentation tasks and business activities with suppliers and guidance and relation with the client.
- Process and accomplish the administrative management when presenting documents in different organizations in the required time and manner.

WHEN I FINISH MY STUDIES, WHAT CAN I DO

Students enrolled on this vocational cycle will be able to keep on studying or will have the option to directly access the working world.

1 Keep on STUDYING

- Professional specialization courses.
- Another High Cycle Vocational Course with the possibility of establishing validation of professional modules according to current regulations.
- University studies with the possibility of establishing validations in accordance with current regulations.

2 CAREER OPENINGS:

- Office Administration.
- Sales Administration.
- Finance Administration.
- Accounting Administration.
- Logistic Administration.
- Banking and insurance Administration.
- Human Resources Administration.
- Public Administration.
- Legal, accounting, labor, tax or administrative consultancies.
- Payments technician.
- Customer service Supervisor.

* *" Students enrolled on the D model, once the cycle is finished, acquire the Advanced level (B2) for Basque".*

More information:
www.maltuna.eus

Industrial Automation and Robotics

High Level Technician



Industrial Automation and Robotics
High Level Technician

FIELD: Electricity and electronics.
NUMBER OF COURSES: Usual schedule, in the morning: 2 courses.
METHODOLOGY: Collaborative learning based on challenges.

DURATION
2.000 HOURS
(At school and at the company)

ACCESS CONDITIONS:

· A level certificate.
· R.E.M second cycle or C.O.U passed.
· FP II certificate.
· A Medium level Vocational Training Cycle passed (technician certificate).
· Access test to High Level.



CURRICULUM

PROFESSIONAL MODULE	HOURS	YEAR
0959. Electrical, pneumatic and hydraulic systems	165	1st
0960. Sequential programmable systems	165	1st
0961. Measurement and regulation systems	165	1st
0962. Power systems	198	1st
0963. Technical documentation	99	1st
0964. Industrial computing	99	1st
0970. Career training and guidance	99	1st
0965. Advanced programmable systems	120	2nd
0966. Industrial robotics	100	2nd
0967. Industrial communications	140	2nd
0968. Integration of industrial automation systems	140	2nd
0969. Industrial automation and robotics project	50	2nd
E200. Technical English	40	2nd
0971. Enterprise and entrepreneurship	60	2nd
0972. Work placement	360	2nd
TOTAL CYCLE	**2.000**	

YOU CAN CHOOSE:

Possibility to have a placement abroad with the Erasmus+ programme.

Trilingual option:

- Some professional modules in English.
- Priority for internships abroad.
- Opportunity to improve the English level and, at the same time, enrich the CV.

Possibility to accomplish DUAL Vocational Training:

Modality that allows students to alternate school training and company training.

FURTHER TRAINING

Students enrolled on this vocational cycle may receive further training to choose from:

- Forklift handling.
- Bridge crane handling.
- English extra classes.
- The knowledge needed to carry out labour risk prevention basic level activities.

WHAT AM I GOING TO LEARN AND DO?

This professional will be able to:

- Configure facilities and automated systems according to the specifications and regulatory requirements.
- Select the equipment and wiring elements and interconnection necessary in the automatic installation, in accordance with the specifications and the regulatory requirements.
- Elaborate the control programs according to the specifications and the functional characteristics of the installation.
- Configure the equipment by developing management and control programs of communication networks through standard buses of industrial automation systems.
- Define the assembly protocol, the tests and the guidelines for the start-up of automatic installations based on the specifications.
- Elaborate plans and schemes of facilities and automatic systems, according to the functional characteristics of the installation and using computerized design tools as well.
- Rethink the installation according to the technical documentation solving the problems of its competence and reporting other contingencies to ensure the feasibility of assembly.
- Supervise and / or assemble equipment and elements associated with electrical and electronic installations, control and communications infrastructures in automatic systems.
- Supervise and/or maintain installations and equipments, carrying out the verification operations, location of breakdowns, adjustment and replacement of its elements, restoring its working order.

WHEN I FINISH MY STUDIES, WHAT CAN I DO

Students enrolled on this vocational cycle will be able to keep on studying or will have the option to directly access the working world.

1 Keep on STUDYING

- Professional specialization courses.
- Another High Cycle Vocational Course with the possibility of establishing validation of professional modules according to current regulations.
- University studies with the possibility of establishing validations in accordance with current regulations.

2 CAREER OPENINGS:

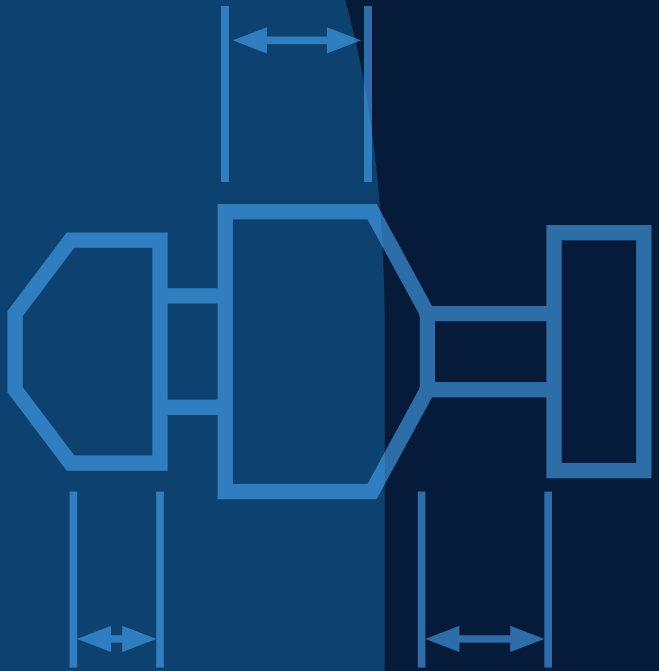
- Equipment assembly and Industrial Automation systems maintenance supervisor.
- Verifier of appliances, switchboards and electrical equipment.
- Team leader in electromechanical workshop.
- Maintenance organization of industrial automation systems technician.
- Start-up of industrial automation systems technician.
- Control systems for industrial automation systems designer.
- Measurement systems and industrial automation regulation of systems designer.
- Communication networks of industrial automation systems designer.
- Industrial robots programmer or controller.
- Electrical control systems design technician.
- Industrial automation circuits and integrated systems designer.

* *" Students enrolled on the D model, once the cycle is finished, acquire the Advanced level (B2) for Basque".*

More information:
www.maltuna.eus

Mechanical Manufacturing Design

High Level Technician



Mechanical Manufacturing Design
High Level Technician

FIELD: Mechanical manufacturing.
NUMBER OF COURSES: Usual schedule, in the morning: 2 courses.
METHODOLOGY: Collaborative learning based on challenges.

DURATION
2.000 HOURS
(At school and at the company)

ACCESS CONDITIONS:

· A level certificate.
· R.E.M second cycle or C.O.U passed.
· FP II certificate.
· A Medium level Vocational Training Cycle passed (technician certificate).
· Access test to High Level.



CURRICULUM

PROFESSIONAL MODULE	HOURS	YEAR
0254. Graphic representation in mechanical manufacturing	198	1st
0427. Mechanical products design	297	1st
0434. Career training and guidance	99	1st
0431. Manufacturing automation	198	1st
0432. Mechanical manufacturing techniques	198	1st
0428. Design of processing tools for sheet metal and stamping	240	2nd
0429. Design of molds and models for casting	120	2nd
0430. Mold design for polymer products	140	2nd
0433. Mechanical product design project	50	2nd
E200. Technical English	40	2nd
0435. Enterprise and entrepreneurship	60	2nd
0436. Work placement	360	2nd
TOTAL CYCLE	2.000	

YOU CAN CHOOSE:

Possibility to have a placement abroad with the Erasmus+ programme.

Trilingual option:

- Some professional modules in English.
- Priority for internships abroad.
- Opportunity to improve the English level and, at the same time, enrich the CV.

Possibility to accomplish DUAL Vocational Training:

Modality that allows students to alternate school training and company training.

FURTHER TRAINING

Students enrolled on this vocational cycle may receive further training to choose from:

- Forklift handling.
- Bridge crane handling.
- English extra classes.
- The knowledge needed to carry out labour risk prevention basic level activities.

WHAT AM I GOING TO LEARN AND DO?

This professional will be able to:

- Devise constructive solutions for mechanic manufacturing products, performing the calculations necessary for their dimensioning, establishing the test plans.
- Prepare, organize, and keep updated the technical documentation necessary for the manufacture of the designed products.
- Select the components and materials according to the manufacturing requirements as well as the use and result of the technical calculations made, using catalogs of industrial products or other multilingual information sources.
- Establish the plan of necessary tests and homologation to ensure compliance with the established requirements.
- Define the automation of the proposed solution by determining the functions and parameters thereof.
- Draw the assembly and manufacturing plans according to industrial drawing rules using CAD software and equipment.
- Make modifications to the design based on the problems detected in the manufacture of the prototype.
- Optimize the design of the molds by simulating the process of filling and cooling them to ensure the quality of the molded products, the optimization of the time of the process and the used energy resources.
- Elaborate, organize and keep updated the technical documentation complementary to the project plans (instructions for use and maintenance, diagrams, spare parts, among others) using office media.

WHEN I FINISH MY STUDIES, WHAT CAN I DO

Students enrolled on this vocational cycle will be able to keep on studying or will have the option to directly access the working world.

1 Keep on STUDYING

- Professional specialization courses.
- Another High Cycle Vocational Course with the possibility of establishing validation of professional modules according to current regulations.
- University studies with the possibility of establishing validations in accordance with current regulations.

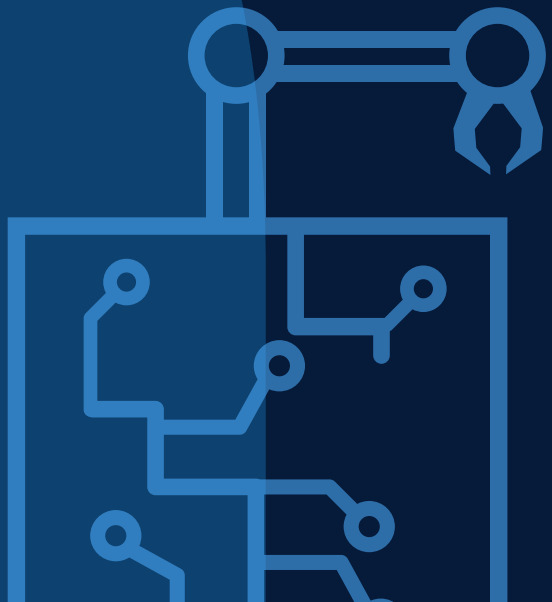
2 CAREER OPENINGS:

- Project Draughtsperson.
- CAD Technician.
- Product development Technician.
- Die development Technician.
- Tool development Technician.
- Mold development Technician.
- Product and mold development Technician.

* *" Students enrolled on the D model, once the cycle is finished, acquire the Advanced level (B2) for Basque".*

More information:
www.maltuna.eus

High Level Technician in Industrial Mechatronics



High Level Technician in Industrial Mechatronics

FIELD: Installation and maintenance.
NUMBER OF COURSES: Usual schedule, in the morning: 2 courses.
METHODOLOGY: Collaborative learning based on challenges.

DURATION
2.000 HOURS
(At school and at the company)

ACCESS CONDITIONS:

- A level certificate.
- R.E.M second cycle or C.O.U passed.
- FP II certificate.
- A Medium level Vocational Training Cycle passed (technician certificate).
- Access test to High Level.



CURRICULUM

PROFESSIONAL MODULE	HOURS	YEAR
0936. Hydraulic and pneumatic systems	132	1st
0937. Electrical and electronic systems	132	1st
0938. Machine elements	99	1st
0939. Manufacturing processes	165	1st
0943. System integration	231	1st
0946. Career training and guidance	99	1st
0940. Graphic representation of mechatronic systems	132	1st
0941. Mechatronic system configuration	160	2nd
0935. Mechanical systems	160	2nd
0942. Maintenance and quality processes and management	100	2nd
0944. Mechatronic system simulation	80	2nd
0945. Industrial mechatronics project	50	2nd
E200. Technical English	40	2nd
0947. Enterprise and entrepreneurship	60	2nd
0948. Work placement	360	2nd
TOTAL CYCLE	**2.000**	

YOU CAN CHOOSE:

Possibility to have a placement abroad with the Erasmus+ programme.

Trilingual option:

- Some professional modules in English.
- Priority for internships abroad.
- Opportunity to improve the English level and, at the same time, enrich the CV.

Possibility to accomplish DUAL Vocational Training:

Modality that allows students to alternate school training and company training.

FURTHER TRAINING

Students enrolled on this vocational cycle may receive further training to choose from:

- Forklift handling.
- Bridge crane handling.
- English extra classes.
- The knowledge needed to carry out labour risk prevention basic level activities.

WHAT AM I GOING TO LEARN AND DO?

This professional will be able to:

- Set up industrial mechatronic systems, choosing the equipment and elements needed.
- Plan the assembly and maintenance of industrial mechatronic systems: machinery, industrial equipment, automated production lines, etc. defining the resources, the required timing and the control systems.
- Supervise and/or operate assembly and maintenance processes of industrial mechatronic systems, using control and measurement tools and specific purpose computer applications.
- Diagnose and locate faults and malfunctions that occur in industrial mechatronic systems, applying operational techniques and specific procedures, to organize their repair.
- Establish minimum levels of spare parts for the maintenance of machinery, industrial equipment and automated production lines.
- Tune the equipment after the repair or assembly of the installation, carrying out the safety and operation tests, the necessary modifications and adjustments, apart from the technical documentation, ensuring the system´s reliability and energetic efficiency.
- Programme the automatic systems, checking the operating parameters and carrying out the necessary functional and regulatory tests and verifications.
- Supervise and run the start-up of the facilities, adjusting the parameters and carrying out the functional as well as regulatory tests and verifications.
- Elaborate the technical and administrative documentation to comply with the regulations in force, with the assembly processes and with the maintenance plan of the facilities.

WHEN I FINISH MY STUDIES, WHAT CAN I DO

Students enrolled on this vocational cycle will be able to keep on studying or will have the option to directly access the working world.

1 Keep on STUDYING

- Professional specialization courses.
- Another High Cycle Vocational Course with the possibility of establishing validation of professional modules according to current regulations.
- University studies with the possibility of establishing validations in accordance with current regulations.

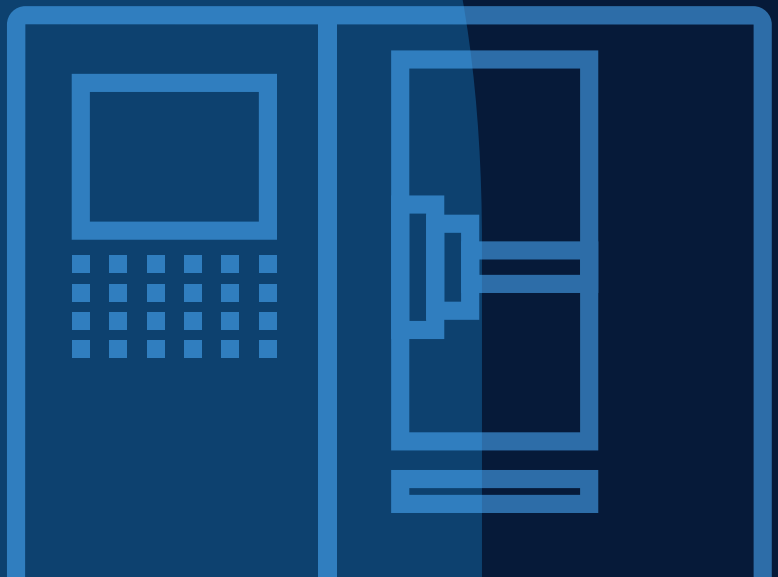
2 CAREER OPENINGS:

- Planning and programming of maintenance processes of industrial machinery and equipment installations technician.
- Industrial equipment and machinery fitter supervisor.
- Head of maintenance equipment for machinery and industrial equipment installations.

"Students enrolled on the D model, once the cycle is finished, acquire the Advanced level (B2) for Basque".

More information:
www.maltuna.eus

High Level on Production Programming in Mechanical Manufacturing



High Level on Production Programming in Mechanical Manufacturing

FIELD: Mechanical manufacturing.

NUMBER OF COURSES: Usual schedule, in the morning: 2 courses.

**Part-time option, morning and evening schedule: 3 courses+ placement*

(consists of the possibility of enrolling in separate modules independently).

METHODOLOGY: Collaborative learning based on challenges.

DURATION

2.000 HOURS

(At school and at the company)

ACCESS CONDITIONS:

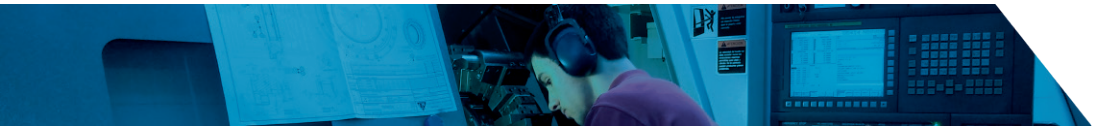
· A level certificate.

· R.E.M second cycle or C.O.U passed.

· FP II certificate.

· A Medium level Vocational Training Cycle passed (technician certificate).

· Access test to High Level.



CURRICULUM

PROFESSIONAL MODULE	HOURS	YEAR
0007. Graphic interpretation	132	1st
0160. Machining process definition, forming and assembly	231	1st
0168. Career training and guidance	99	1st
0164. Manufacturing processes execution	198	1st
0165. Quality management, work risk prevention, environmental protection	165	1st
0166. Product verification	165	1st
0002. Numerical control machining	240	2.nd
0161. Computer aided manufacturing (CAM)	40	2.nd
0162. Programming of automatic mechanical manufacturing systems	100	2.nd
0163. Production programming	120	2.nd
0167. Machining product manufacturing project	50	2.nd
E200. Technical English	40	2.nd
0169. Enterprise and entrepreneurship	60	2.nd
0170. Work placement	360	2.nd
TOTAL CYCLE	**2.000**	

YOU CAN CHOOSE:

Possibility to have a placement abroad with the Erasmus+ programme.

Trilingual option:

- Some professional modules in English.
- Priority for internships abroad.
- Opportunity to improve the English level and, at the same time, enrich the CV.

Possibility to accomplish DUAL Vocational Training:

Modality that allows students to alternate school training and company training.

FURTHER TRAINING

Students enrolled on this vocational cycle may receive further training to choose from:

- Forklift handling.
- Bridge crane handling.
- English extra classes.
- The knowledge needed to carry out labour risk prevention basic level activities.

WHAT AM I GOING TO LEARN AND DO?

This professional will be able to:

- Elaborate equipment assembly procedures.
- Determine the machining processes.
- Supervise the programming and tuning of numerical control machines, robots and manipulators for machining.
- Schedule production using computerized management techniques and tools.
- Determine the necessary provisioning.
- Make sure that the manufacturing processes adjust to the established procedures.
- Manage the maintenance of the resources of my area.

WHEN I FINISH MY STUDIES, WHAT CAN I DO

Students enrolled on this vocational cycle will be able to keep on studying or will have the option to directly access the working world.

1 Keep on STUDYING

- Professional specialization courses.
- Another High Cycle Vocational Course with the possibility of establishing validation of professional modules according to current regulations.
- University studies with the possibility of establishing validations in accordance with current regulations.

2 CAREER OPENINGS:

- Machining technicians.
- Metal processing facilities supervisor.
- Operators of metalworking machines supervisor.
- Assemblers supervisor.
- CNC programmer.
- Mechanical manufacturing of automated systems programmer.
- Production programmer.
- Maintenance of installations of machinery and industrial equipment team leader.

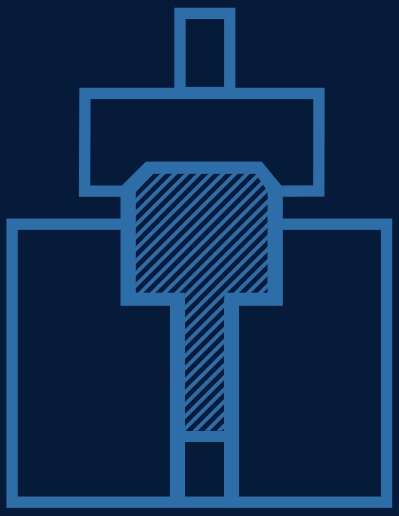
* *" Students enrolled on the D model, once the cycle is finished, acquire the Advanced level (B2) for Basque".*

More information:
www.maltuna.eus

Specialization Programme

04

Design and Production of Forging Processes



Specialization Programme: Design and Production of Forging Processes

FIELD: Mechanical Manufacturing.

NUMBER OF COURSES: 1 academic year.

DURATION:
1200 HOURS
(On the DUAL programme, 4 hours at school and 4 hours at the company).

ACCESS CONDITIONS:

The certificates that give access to this post-cycle specialized professionalization programme are the following:

· High Level Mechanical Manufacturing Design Mechnician.
· High Level Production Programming in Mechanical Manufacturing Mechnician.
· High level Industrial Mechatronics Technician.

CURRICULUM:

SPECIALIZATION PROGRAMME IN DESIGN AND PRODUCTION OF FORGING PROCESSES	HOURS
1.Forging manufacturing processes	80
2.Forging products design	100
3. Design and simulation of Forging tools	100
4. Set-up of presses and execution of forging processes	260
5. Forging project	60

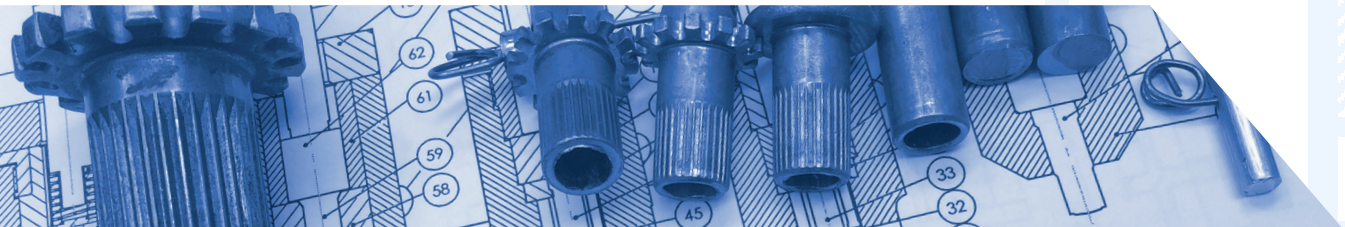
DUAL alternation system:

· Timetable: At Miguel Altuna from 8.00 to 12.00 and 4 hours at the company in the afternoon.

· Duration: From September to June.

· Type of relation: Through scholarship or working contract. The student receives remuneration proportional to the working time according to the contract or agreement.

The Miguel Altuna educational center designates the student´s tutor and the company the instructor. The company is the one who selects the student.



FURTHER TRAINING

Students enrolled on this vocational cycle may receive further training to choose from:

- Forklift handling.
- Bridge crane handling.
- English extra classes.
- The knowledge needed to carry out labour risk prevention basic level activities.

WHAT AM I GOING TO LEARN TO DO?

This professional will be able to:

- Design the sequences to manufacture the components by means of cold, semi-hot and hot-forging.
- Design the instruments and the necessary tools and also to program, plan and develop the different manufacturing operations.
- Inspect and apply the necessary procedures to manage quality, universal accessibility and proper design for everybody.

WHEN I FINISH MY STUDIES, WHAT CAN I DO?

Students enrolled on this vocational cycle will be able to keep on studying or will have the option to directly access the working world.

1 Keep on STUDYING:

- Professional specialization courses.
- Another High Cycle Vocational Course with the possibility of establishing validation of professional modules according to current regulations.
- University studies with the possibility of establishing validations in accordance with current regulations.

2 Choose the following CAREER OPENINGS:

- Qualified technician of cold, semi-hot and hot-forging.

More information:
www.maltuna.eus

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Viceconsejería de Formación Profesional

Fp EUSKADI LANBIDE HEZIKETA