



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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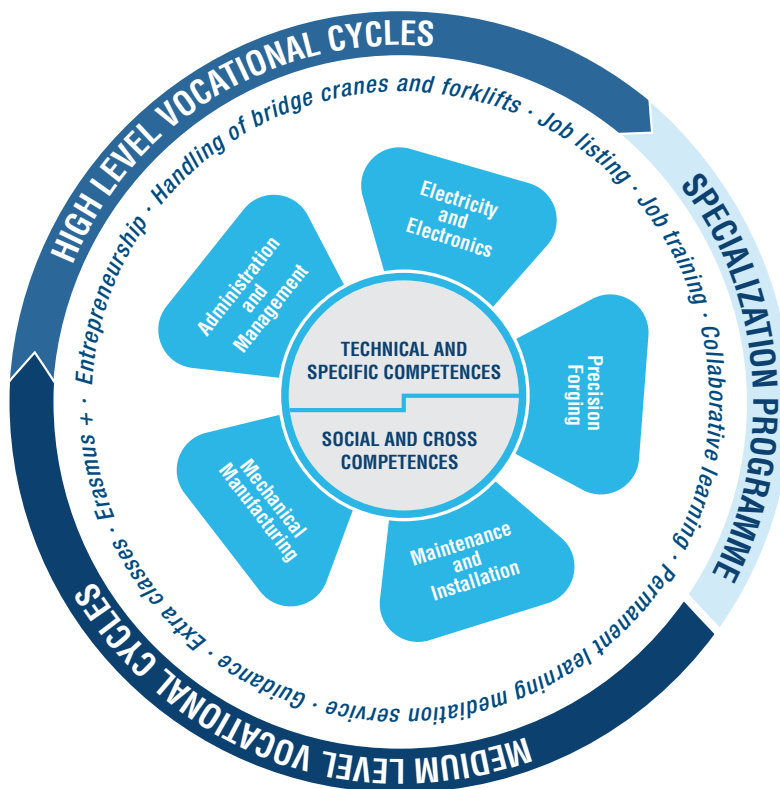
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01.1 Presentation

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.



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

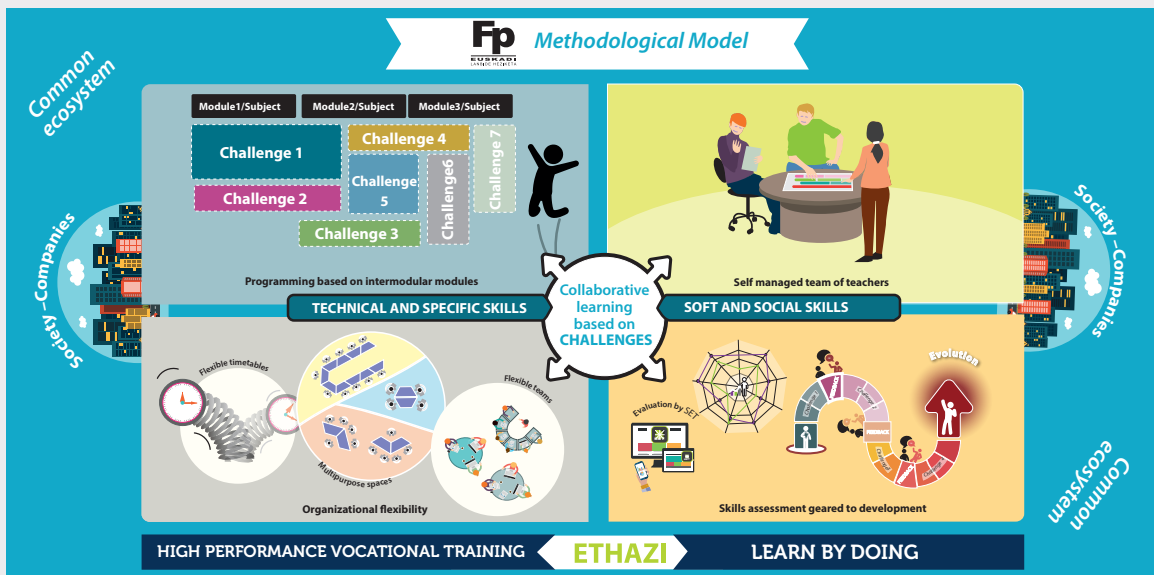
Challenges among different modules.

Assess to be able to evolve in the competence development.

Teaching team of self-managed cycles.

Adaptation of learning areas.

5



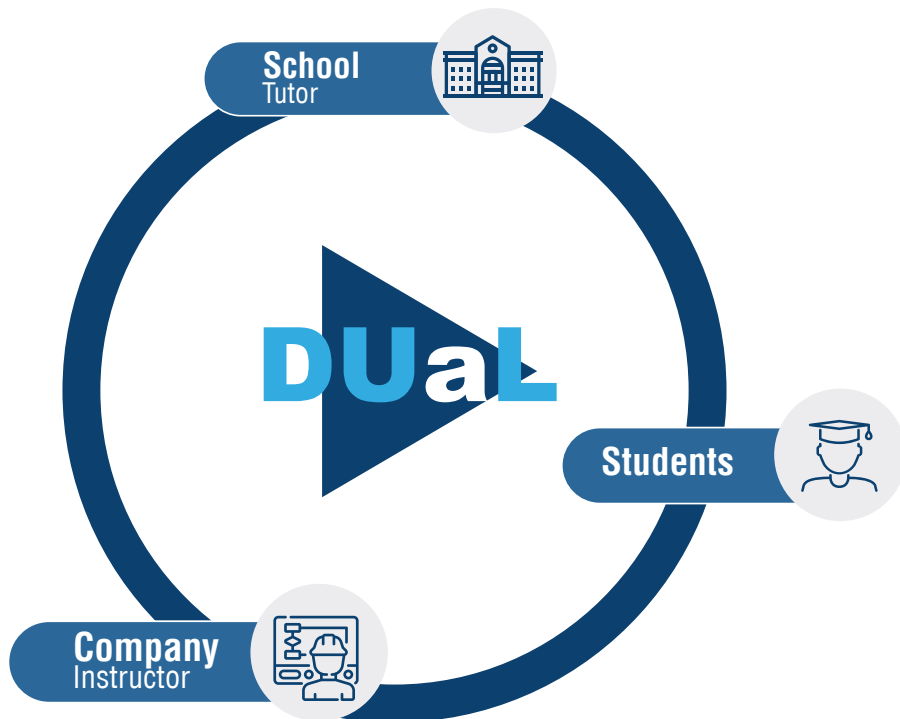
01.3 The DUAL Vocational Training

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 competitiveness 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.

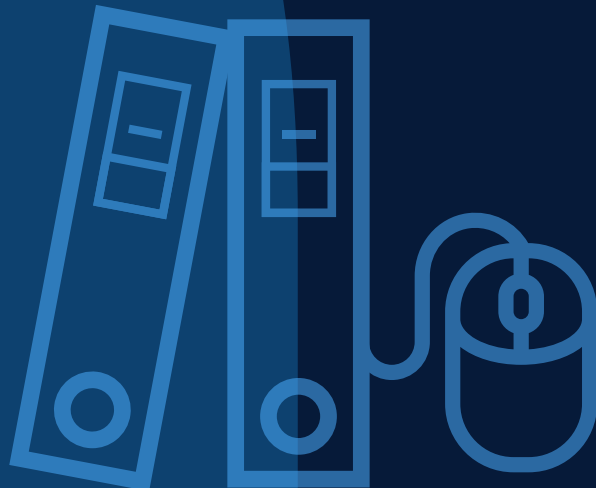


Medium Level Vocational Training

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

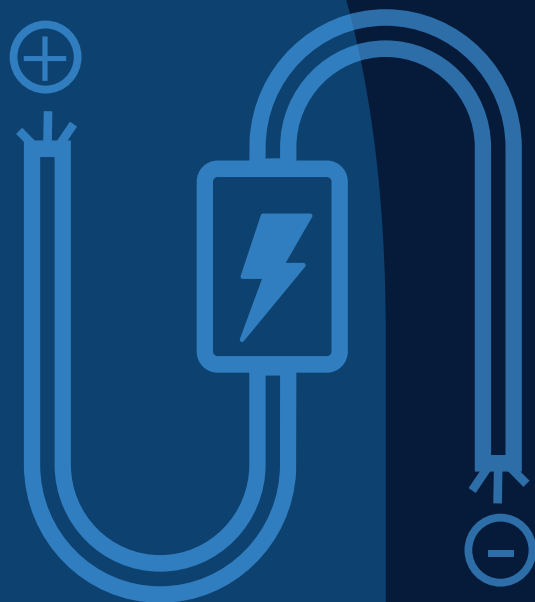
- Administration Assistant.
- Office Assistant.
- Receipts and payments Manager.
- Sales Administration.
- Management and Personnel Administration.
- Bank and Financial Institution Administration.
- Receptionist.
- Customer Service supervisor.
- Treasury Supervisor.
- Payments supervisor.



“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	1 st
0233. Electronics	132	1 st
0234. Electrotechnics	198	1 st
0235. Indoor electrical facilities	297	1 st
0239. Solar photovoltaic facilities	66	1 st
E100. Technical English	33	1 st
0236. Distribution facilities	105	2 nd
0237. Common telecommunication Infrastructures in homes and buildings	105	2 nd
0238. Domotic facilities	126	2 nd
0240. Electrical machinery	126	2 nd
0241. Career training and guidance	105	2 nd
0242. Enterprise and entrepreneurship	63	2 nd
0243. Work placement	380	2 nd
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:

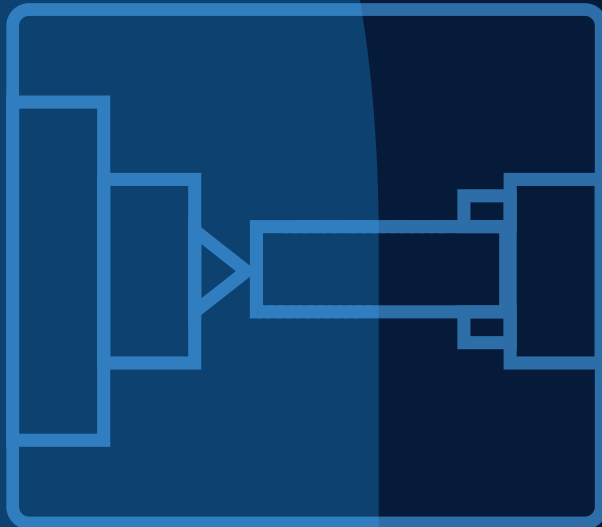
- Electrical Line installer.
- Electrical installer in buildings.
- Industrial electrician.
- Maintenance electrician.
- Domotic systems fitter.
- Antenna fitter.
- Telecommunications installer in residential buildings.
- Telephone equipment fitter.
- Installer of photovoltaic solar energy installations.



"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	1 st
0004. Metal cutting manufacturing	363	1 st
0005. Automated systems	165	1 st
0006. Metrology and testing	132	1 st
0007. Graphic interpretation	132	1 st
E100. Technical English	33	1 st
0002. Machining by numeric control	252	2 nd
0003. Manufacturing by abrasion, electro erosion, cutting and forming and by special processes	210	2 nd
0008. Career training and guidance	105	2 nd
0009. Enterprise and entrepreneurship	63	2 nd
0010. Work placement	380	2 nd
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 matrixer 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
Office Director Assistance	48

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

- 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	1 st
0960. Sequential programmable systems	165	1 st
0961. Measurement and regulation systems	165	1 st
0962. Power systems	198	1 st
0963. Technical documentation	99	1 st
0964. Industrial computing	99	1 st
0970. Career training and guidance	99	1 st
0965. Advanced programmable systems	120	2 nd
0966. Industrial robotics	100	2 nd
0967. Industrial communications	140	2 nd
0968. Integration of industrial automation systems	140	2 nd
0969. Industrial automation and robotics project	50	2 nd
E200. Technical English	40	2 nd
0971. Enterprise and entrepreneurship	60	2 nd
0972. 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:

- 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:

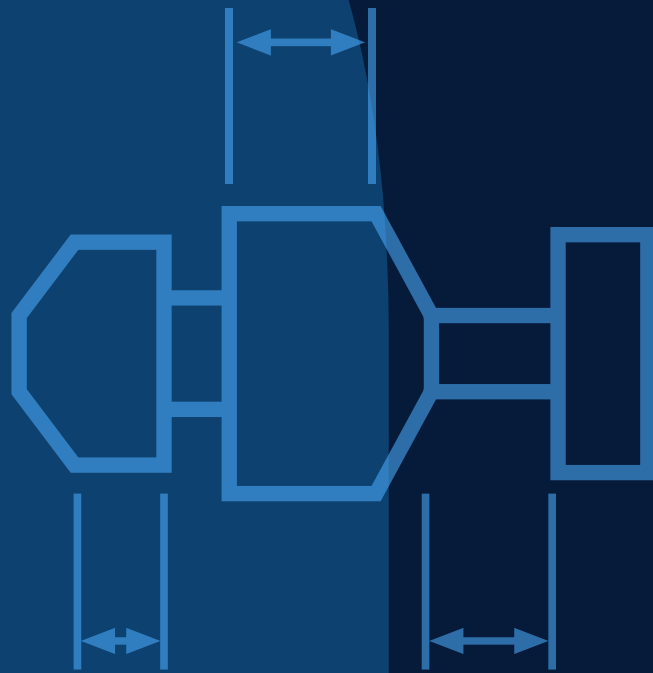
- Equipment assembly and Industrial Automation systems maintenance supervisor.
- Verifier of appliances, switchboards and electrical equipment.
- Team leader in electromechanical workshop.
- Maintenance organization of industrial automation systems technician.
- Start-up of industrial automation systems 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	1 st
0427. Mechanical products design	297	1 st
0434. Career training and guidance	99	1 st
0431. Manufacturing automation	198	1 st
0432. Mechanical manufacturing techniques	198	1 st
0428. Design of processing tools for sheet metal and stamping	240	2 nd
0429. Design of molds and models for casting	120	2 nd
0430. Mold design for polymer products	140	2 nd
0433. Mechanical product design project	50	2 nd
E200. Technical English	40	2 nd
0435. Enterprise and entrepreneurship	60	2 nd
0436. 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:

- 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:

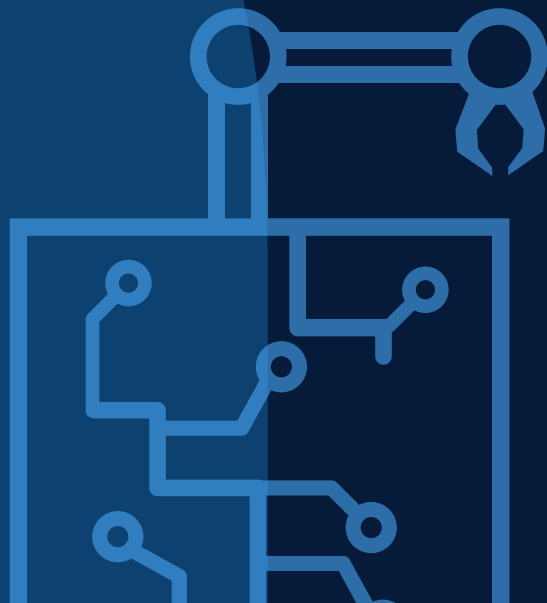
- Project Draughtsperson.
- CAD Technician.
- Product development Technician.
- Die development Technician.
- Tool development Technician.
- Mold development Technician.
- Product and mold development Technician.



“ 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	1 st
0937. Electrical and electronic systems	132	1 st
0938. Machine elements	99	1 st
0939. Manufacturing processes	165	1 st
0943. System integration	231	1 st
0946. Career training and guidance	99	1 st
0940. Graphic representation of mechatronic systems	132	1 st
0941. Mechatronic system configuration	160	2 nd
0935. Mechanical systems	160	2 nd
0942. Maintenance and quality processes and management	100	2 nd
0944. Mechatronic system simulation	80	2 nd
0945. Industrial mechatronics project	50	2 nd
E200. Technical English	40	2 nd
0947. Enterprise and entrepreneurship	60	2 nd
0948. 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:

- 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:

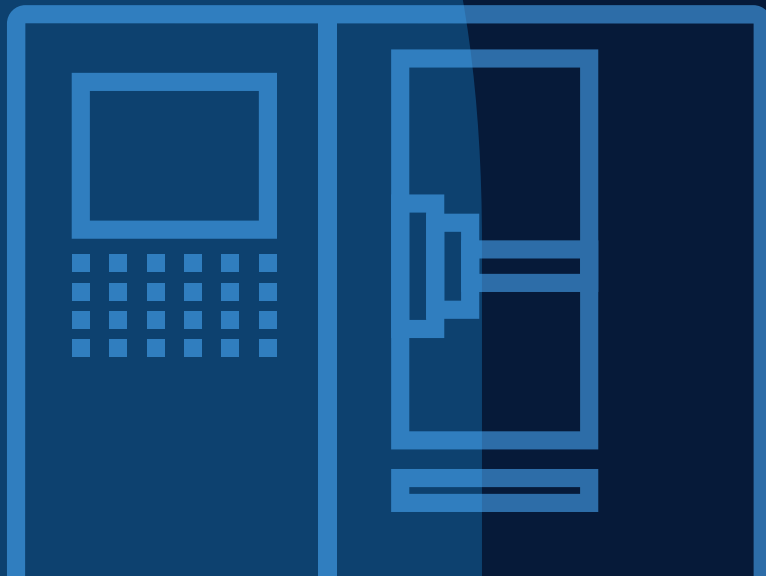
- Planning and programming of maintenance processes of industrial machinery and equipment installations technician.
- Industrial equipment and machinery fitter supervisor.
- Head of maintenance equipment for machinery and industrial equipment installations.



“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	1 st
0160. Machining process definition, forming and assembly	231	1 st
0168. Career training and guidance	99	1 st
0164. Manufacturing processes execution	198	1 st
0165. Quality management, work risk prevention, environmental protection	165	1 st
0166. Product verification	165	1 st
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

Higher Technician in Office Director Assistance



Higher Technician in Office Director Assistance

FAMILY: Administration and management

NUMBER OF COURSES: 2 years, morning.

METHODOLOGY: Collaborative learning based on challenges.

DURATION

2.000 HOURS

(In the center and in the company).

ACCESS CONDITIONS:

- To have passed 2nd cycle of R.E.M. or C.O.U.
- To be in hold of baccalaureate certificate.
- To be in hold of FPII degree.
- To have passed an intermediate level training cycle (technician degree).
- To have passed the entry exam for Higher Level Cycles.



CURRICULUM

PROFESSIONAL MODULE	HOURS	COURSE
0647. Management of Legal and Business Documents	100	2nd
0648. Human Resources and Corporate Social Responsibility	99	1st
0649. Office Automation and Information Processing	231	1st
0650. Integral Process of Commercial Activity	231	1st
0651. Communication and Customer Service	198	1st
0179. English	132	1st
0180. Second Foreign Language	120	2nd
0661. Business Protocol	120	2nd
0662. Organization of Corporate Events	140	2nd
0663. Advanced Management of Information	20	2nd
0664. Project on Management Assistance	50	2nd
0665. Professional Training and Guidance	99	1st
0667. On the Job Training	360	2nd
TOTAL CYCLE	2.000	

* **NOTE:** Only the second course will be offered at Miguel Altuna.

YOU WILL BE ABLE TO OPT FOR:

Possibility of doing the internship abroad through the ERASMUS+ program.

Trilingual option:

- Some modules in English.
- Priority to do an internship abroad.
- An opportunity to improve the level of English and at the same time, enrich the curriculum.

Possibility of Dual Vocational Training (FP DUAL):

A modality that allows students to combine training in the centre and in the company.

FURTHER TRAINING

Students enrolled in this training cycle, have the possibility of receiving the following complementary training:

- Handling of forklift trucks.
- Bridge crane operation.
- English reinforcement classes.
- The necessary knowledge to carry out the activities of basic level of Occupational Risk Prevention

WHAT AM I GOING TO DO AND LEARN?

The holder will be able to:

- Manage information and filing systems, in conventional and computer support under secure conditions and establishing control measures.
- Communicate orally and in writing accurately in at least two foreign languages.
- Organize and manage the management's agenda and communications, coordinating their activity with other areas or organizations.
- Manage the organization of events, meetings and other corporate events, following established rules and protocols.
- Develop public relations tasks in the company, through cooperation with other internal and external instances.
- Make presentations of documents and reports, integrating texts, data and graphics, using computer applications.
- Perform basic administration tasks in the commercial, financial, accounting and tax areas of the company with a global and integrated vision of these processes.
- Process documents and internal or external communications in the company's information circuits.
- Prepare documents and communications based on orders received, information obtained and/or needs detected.
- Classify, register and file communications and documents according to the appropriate techniques and parameters established in the company.

WHAT CAN I DO WHEN I FINISH MY STUDIES?

Students enrolled in this training cycle may continue studying or they can directly access the labour market:

1 Continue STUDYING:

- Professional specialization courses.
- Another Higher Vocational Training cycle with the possibility of establishing validation of professional modules in accordance with current regulations.
- University studies with the possibility of establishing validations in accordance with current regulations.

2 Decide on the following occupations

- Management assistance.
- Personal assistance.
- Management secretary.
- Assistance to offices and offices.
- Legal assistance.
- Assistance in Human Resources departments.
- Administrative personnel in Public Administrations and Organizations.



“The students enrolled in model D, obtain the title of Advanced Level (B2) of Basque once they finish the training cycle.”

More information:
www.maltuna.eus

Specialization Programmes

04

**Design and Production of
Forging Processes
Smart Manufacturing**

54

56

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 Mechanician.
- High Level Production Programming in Mechanical Manufacturing Mechanician.
- High level Industrial Mechatronics Technician.

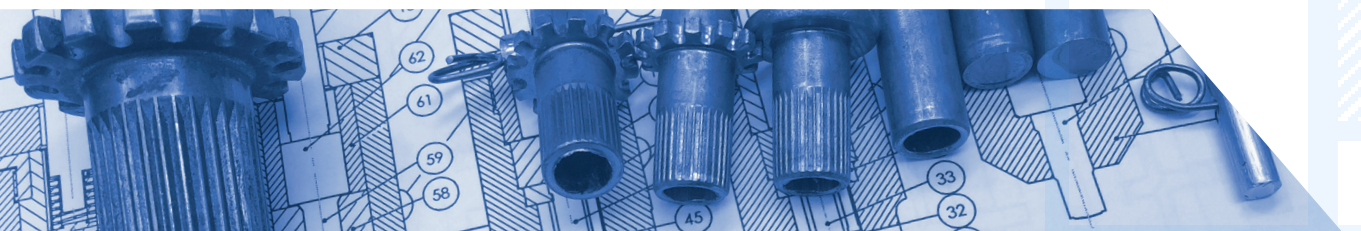
CURRICULUM:

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.eu

Specialization Programme: Smart Manufacturing

(Specialization course approved at the state level)

LEVEL: Higher Level Professional Training

FAMILY: Installation and Maintenance

NUMBER OF COURSES: Usual schedule, in the morning: 1 course with practices included

METHODOLOGY: Collaborative learning based on challenges

DURATION:

660 HOURS

(In the center and in the company).

ACCESS CONDITIONS:

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

- Higher Technician in Mechanical Production Scheduling.
- Higher Technician in Mechanical Manufacture Design.
- Higher Technician in Electrotechnical and Automated Systems.
- Higher Technician in Industrial Mechatronics.
- Higher Technician in Electronic Maintenance.
- Higher Technician in Electrotechnical and Automated Systems.

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Specialization programme
Smart Manufacturing

CURRICULUM:

PROFESSIONAL MODULE	HOURS
5011 Intelligent production processes.	240
5012 Metrology and intelligent instrumentation	100
5013 Networked environments and Internet of things.	100
5014 Virtualization of machines and production processes.	70
5015 Work placement / Dual in-company training	420/450

Possibility to accomplish DUAL Vocational Training:

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



FURTHER TRAINING:

Students enrolled in this vocational cycle may receive further training in:

- Handling of forklift trucks.
- Bridge crane operation.
- English reinforcement classes.
- The necessary knowledge to carry out the activities of basic level of Occupational Risk Prevention.

WHAT AM I GOING TO LEARN AND DO?

This specialization course consists of developing and managing production process adaptation projects, identifying production objectives, taking into account key performance indicators (KPIs), and applying advanced production control technologies and quality and safety requirements.

The holder of this diploma will be able to:

Pursue their activity in public and private companies, in the industrial production sector and with a significant automation component, whose activities have a clear trend towards the integration of all their digital systems of operation and management.

WHAT CAN I DO WHEN I FINISH MY STUDIES?

Students enrolled in this specialization course will be able to continue studying or will have the option of directly accessing the labor market:

ACCESSIBLE RANGES OF OCCUPATIONS:

- Expert in intelligent manufacturing systems.
- Knowledgeable as an advanced user of the different advanced technologies used in intelligent manufacturing with the ability to analyze the KPI's to improve production processes.
- Responsible for technological surveillance of advances in intelligent manufacturing and change manager of the organization with the ability to generate digitization strategies.
- Specialist in applying the latest advances in intelligent manufacturing in the company and bringing it closer to the 4.0 reference.
- Coordinator/Responsible for a team of integrators of advanced technologies in smart manufacturing.
- Change manager in the digital transformation of the company.



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