

I-QUALITY24

HIGHER TECHNICIAN FOR PROCESS AND PRODUCT QUALITY MANAGEMENT

<https://www.itsprime.it/corsi-itsprime/i-quality24/>

The course is fully funded under Mission 4 - Component 1 Investment 1.5 of PNRR - Strengthening the training offer of the "ITS Academy".

Free for participants.

The ITS Prime Foundation has also provided for the award of **Scholarships** on the basis of merit and income. The terms and criteria for allocation and disbursement will be defined and communicated to students attending with appropriate notices and regulations.

Type of course:

Two-year course in higher education.

Teaching location:

the course will take place mainly at the ITS PRIME locations in **Pontedera (PI)**. Some of the activities may be held in the technological laboratories of the Universities, Companies and Entities that collaborate with the ITS Prime Foundation. They may also be held occasionally in structures of educational or scientific interest located elsewhere. The internships may take place in companies located in any part of the regional, national and/or European territory.

Registration deadline: 15th October 2024, 11pm.

Type of final Diploma:

Diploma in " HIGHER TECHNICIAN FOR DESIGN AND ADVANCED MECHATRONIC PRODUCTION" (Ambito 6.1 - Sviluppo e innovazione del processo e del prodotto - Figura 6.1.1 dell'allegato 1 – DM 203 del 20.10.2023) with indication of specialization of the course in "**HIGHER TECHNICIAN FOR PROCESS AND PRODUCT QUALITY MANAGEMENT**" with the certification of the competences corresponding to the **European Qualifications Framework for lifelong learning (EQF) level 5** and constitutes a qualification for access to public competitions pursuant to Art. 5, paragraph 7, of the D.P.C.M 25 January 2008.

Entry requirements:

possession of secondary school diploma or after the 4-year Diploma of Vocational Education and Training (VET) integrated by a one-year Higher Technical Education and Training



(IFTS) course;

age between 18 to 35 years old (not completed on the call deadline date);

basic skills in English and ICT.

Female candidates and/or candidates belonging to disadvantaged categories who have been successful in the selection process will be automatically admitted to participate in the course as trainees, up to the limit of the number of places allocated to them (50% of places to women, 7% to disadvantaged categories in accordance with the provisions of Law 68/1999).

Type of access:

classes can be made up of a **minimum number of 20 students** as required by current national regulations on the matter and a **maximum of 25 students**.

Selection mode

The selection of participants includes:

curricular evaluation by qualifications and experiences,

a written test,

a motivational interview.

Method of enrollment:

see link: <https://www.itsprime.it/corsi-itsprime/i-quality24/>

Methods of recognition of previous training courses:

The student at the time of enrollment may request the recognition of training courses, formal or non-formal, producing the documentation that attests them. The request is submitted to the Scientific Technical Committee that evaluates the coherence of the previous training courses with the Training Units and the modules of the course that the student is going to attend. On this basis the Scientific Technical Committee indicates which modules can be recognized as already learned by the student. Requests for recognition of training credits received after the selection date will not be evaluated.

Course Objectives.

The course "I-QUALITY - Higher Technician for Process and Product Quality Management" trains professionals in the mechanical sector, specialized in the control and analysis of the conformity of products and production processes.

The skills acquired include specific knowledge of materials and industrial processes, quality controls, as well as the ability to manage relationships with customers and suppliers.



Main job opportunities

Quality manager

Testing technician

Supplier management manager

Didactic plan

The two-year course, of 2000 hours in total, takes place in 4 semesters with a didactic articulation that provides:

classroom lessons and laboratory activities (1160 hours),

internship, in Italy and abroad (840 hours). Any foreign internships are carried out with the European Erasmus+ programme.

Lesson time: Monday to Friday with a weekly commitment of 35-40 hours. Interruptions in teaching activities will be planned for holidays, summer and winter vacations.

The entire training course is carried out in close connection with the mechanic sector companies. The teaching team is composed of at least 70% of experts from the world of production, professions and work with a specific professional experience in the field. In particular is involved the staff of the companies, partners of ITS Prime Foundation.

Teachers from the School, University, Research Centres and Vocational Training will also be involved. Seminars, testimonies of key protagonists in the sector and visits to fairs, events, companies and installations of particular interest will complete the path of studies.

Possibility of access to further studies

The diploma may be integrated into a subsequent university course, with recognition of university credits (CFU) on the basis of the didactic regulations of the individual universities. In this regard, please refer to the regulations in force.

Regulations for the conduct of exams and other forms of school profit assessment

Each ITS PRIME course is biennial and consists of Training Units, divided into Didactic Modules.

At the end of each Didactic module, a 100-scale assessment is planned. For the modules with many hours of lessons, intermediate verifications are foreseen. Students, after having attended the course for at least 80% of the total hours of lessons, and having obtained in all the Didactic modules at least 60/100, are admitted to the final exam. The exam consists of technical-practical tests and an interview.

Course structure ***Training Units and Teaching Modules***

UFC 1 - EMPOWERMENT E TEAM BUILDING

1.1 Outdoor Training (in ambiente esterno)



- 1.2 Laboratorio di Self Empowerment e Team Building
- 1.3 Problemsetting and solving - decision making - time management

UFC 2 - ORIENTATION TO WORK AND ENTERPRISE

- 2.1 The enterprise and the employment relationship (contracts)
- 2.2 Business organization and organization charts
- 2.3 Supply chain management

UFC 3 - LANGUAGE SKILLS

- 3.1 English theory
- 3.2 English laboratory
- 3.3 Technical English

UFC 4 - SAFETY AND ENVIRONMENT

- 4.2 Safety and accident prevention in the workplace (basic-medium-high risk)
- 4.3 Green enterprise; iso 14000, sustainability and eco-compatibility of industrial production

UFC 5 - CHARACTERIZATION OF MATERIALS

- 5.1 Specificity and Chemical Characteristics of Materials/Products
- 5.2 Specificity and Mechanical Characteristics of Materials/Products

UFC 6 - MECHANICAL TECHNOLOGIES

- 6.1 Technical Drawing: standards, development, reading, interpretation, and reverse engineering
- 6.2 Metrology, dimensional characteristics and tolerances
- 6.3 Main production processes in the mechanical industry (Foundry, Machining, Additive Manufacturing)

UFC 7 - COMPUTATIONAL FUNDAMENTALS AND TOOLS

- 7.1 Mathematical and statistical analysis
- 7.2 Management software (Electronic Spreadsheet and DB Management)

UFC 8 - PROCESS QUALITY.

- 8.1 Process Quality: statistical evaluation techniques
- 8.2 Measuring Quality: how to evaluate analytical processes and define KPIs



8.4 Controls in processes, sampling and analytical activity

UFC 9 - QUALITY CONTROL

- 9.1 Quality policies in the use of processes (ISO 9001)
- 9.2 Principles and notions of a certified quality system
- 9.3 Technical standardization in Quality controls
- 9.4 Testing systems, certification and accreditation
- 9.5 QC of procurement, processes and products
- 9.6 Planning and implementation of quantitative and qualitative data analysis to support QC
- 9.7 Management of documentation and technical manuals
- 9.8 Management of non-quality events

UFC 10 - INVESTIGATION TECHNIQUES AND TOOLS.

- 10.1 Product verification instrumentation and materials investigation techniques
- 10.2 Main digital laboratory instrumentation (Digital Twins)
- 10.3 Testing and Testing techniques according to Product Lifecycle Management criteria
- 10.4 Material and product testing and analysis techniques including at the sustainability level

UFC 11 - TESTING INSPECTION AND CERTIFICATION (TIC)

- 11.1 The TIC (Testing, Inspection and Certification) sector in Italy and around the world
- 11.2 How an analysis and testing laboratory operates
- 11.3 Supplier qualification and auditing

UFC 12 - I-Quality Lab 1

- 12.1 Project Work 1st year

UFC 13 - Laboratory I-Quality 2

- 13.1 Project Work 2nd year

UFC 14 - INTERNSHIP

- 14.1 Internship in the company



Timetable and credits for teaching modules

Acronym	I-QUALITY 24						
Title	Higher technician for process and product quality management						
Modules Code	Teaching	Hours Module	Hours UFC	Hours First year	Hours Second year	Credits First year	Credits Second year
	UFC 1 - EMPOWERMENT E TEAM BUILDING		40	First Year			
1.1	Outdoor Training (in ambiente esterno)	8		8			
1.2	Laboratorio di Self Empowerment e Team Building	16		16		2	
1.3	Problemsetting and solving - decision making - time management	16		16			
	UFC 2 - ORIENTATION TO WORK AND ENTERPRISE		32		Second year		Second year
2.1	The enterprise and the employment relationship (contracts)	8			8		1
2.2	Business organization and organization charts	12			12		2
2.3	Supply chain management	12			12		2
	UFC 3 - LANGUAGE SKILLS		76	First Year		First Year	
3.1	English theory	40		40		2	
3.2	English laboratory	20		20		1	
3.3	Technical English	16		16		1	
	UFC 4 - SAFETY AND ENVIRONMENT		56	First Year		First Year	
4.2	Safety and accident prevention in the workplace (basic-medium-high risk)	40		40		2	
4.3	Green enterprise; iso 14000, sustainability and eco-compatibility of industrial production	16		16		1	
	UFC 5 - CHARACTERIZATION OF MATERIALS		32	First Year		Primo anno	
5.1	Specificity and Chemical Characteristics of Materials/Products	16		16		2	
5.2	Specificity and Mechanical Characteristics of Materials/Products	16		16		2	
	UFC 6 - MECHANICAL TECHNOLOGIES		148	First Year		First Year	
6.1	Technical Drawing: standards, development, reading, interpretation, and reverse engineering	40		40		2	
6.2	Metrology, dimensional characteristics and tolerances	48		48		3	
6.3	Main production processes in the mechanical industry (Foundry, Machining, Additive Manufacturing)	60		60		4	
	UFC 7 - COMPUTATIONAL FUNDAMENTALS AND TOOLS		56	First Year		First Year	
7.1	Mathematical and statistical analysis	24		24		2	
7.2	Management software (Electronic Spreadsheet and DB Management)	32		32		2	
	UFC 8 - PROCESS QUALITY.		96	First Year		First Year	
8.1	Process Quality: statistical evaluation techniques	32		32		2	
8.2	Measuring Quality: how to evaluate analytical processes and define KPIs	32		32		2	
8.4	Controls in processes, sampling and analytical activity	32		32		2	
	UFC 9 - QUALITY CONTROL		168	First Year		First Year	
9.1	Quality policies in the use of processes (ISO 9001)	16		16		1	
9.2	Principles and notions of a certified quality system	24		24		2	
9.3	Technical standardization in Quality controls	12		12		1	
9.4	Testing systems, certification and accreditation	24		24		2	
9.5	QC of procurement, processes and products	24		24		2	
9.6	Planning and implementation of quantitative and qualitative data analysis to support QC	24		24		2	
9.7	Management of documentation and technical manuals	20		20		2	
9.8	Management of non-quality events	24		24		2	
	UFC 10 - INVESTIGATION TECHNIQUES AND TOOLS.		148	First Year		First Year	
10.1	Product verification instrumentation and materials investigation techniques	28		28		2	
10.2	Main digital laboratory instrumentation (Digital Twins)	44		44		3	
10.3	Testing and Testing techniques according to Product Lifecycle Management criteria	44		44		3	
10.4	Material and product testing and analysis techniques including at the sustainability level	32		32		2	
	UFC 11 - TESTING INSPECTION AND CERTIFICATION (TIC)		88		Second year		Second year
11.1	The TIC (Testing, Inspection and Certification) sector in Italy and around the world	24			24		4
11.2	How an analysis and testing laboratory operates	40			40		5
11.3	Supplier qualification and auditing	24			24		3
	UFC 12 - I-Quality Lab 1		50	First Year		First Year	
12.1	Project Work 1st year	50		50		4	
	UFC 13 - Laboratory I-Quality 2		50		Second year		Second year
13.1	Project Work 2nd year	50			50		5
	UFC 14 - INTERNSHIP		760		Second year		Second year
14.1	Internship in the company	760			760		38
	TOTAL HOURS		1800	870	930	60	60



ECTS credit system

For each course, ITS PRIME has adopted the calculation of credits according to the credit system used in the European Higher Education space ECTS (European Credit Transfer System). For the credits of an annuity there are, as for most Higher Education annuities, 60 credits. Typically 1 credit is equivalent to 25 hours of work between classroom (or laboratory for practical activities) and individual study. For each Didactic Module, the workload necessary for students to achieve the intended learning outcomes was assessed by assessment experts and module teachers. Lecture hours were considered 30% or 50% of the total workload hours according to the theoretical or theoretical-practical nature of the different modules. Time spent on company internship and laboratory activities was considered 100% of the workload.

Language of lessons

Italian

Course calendar

The course will start by October 30, 2024 and will end by October 2026. The actual start date of the course will be communicated via the ITS Prime Foundation website (www.itsprime.it).

