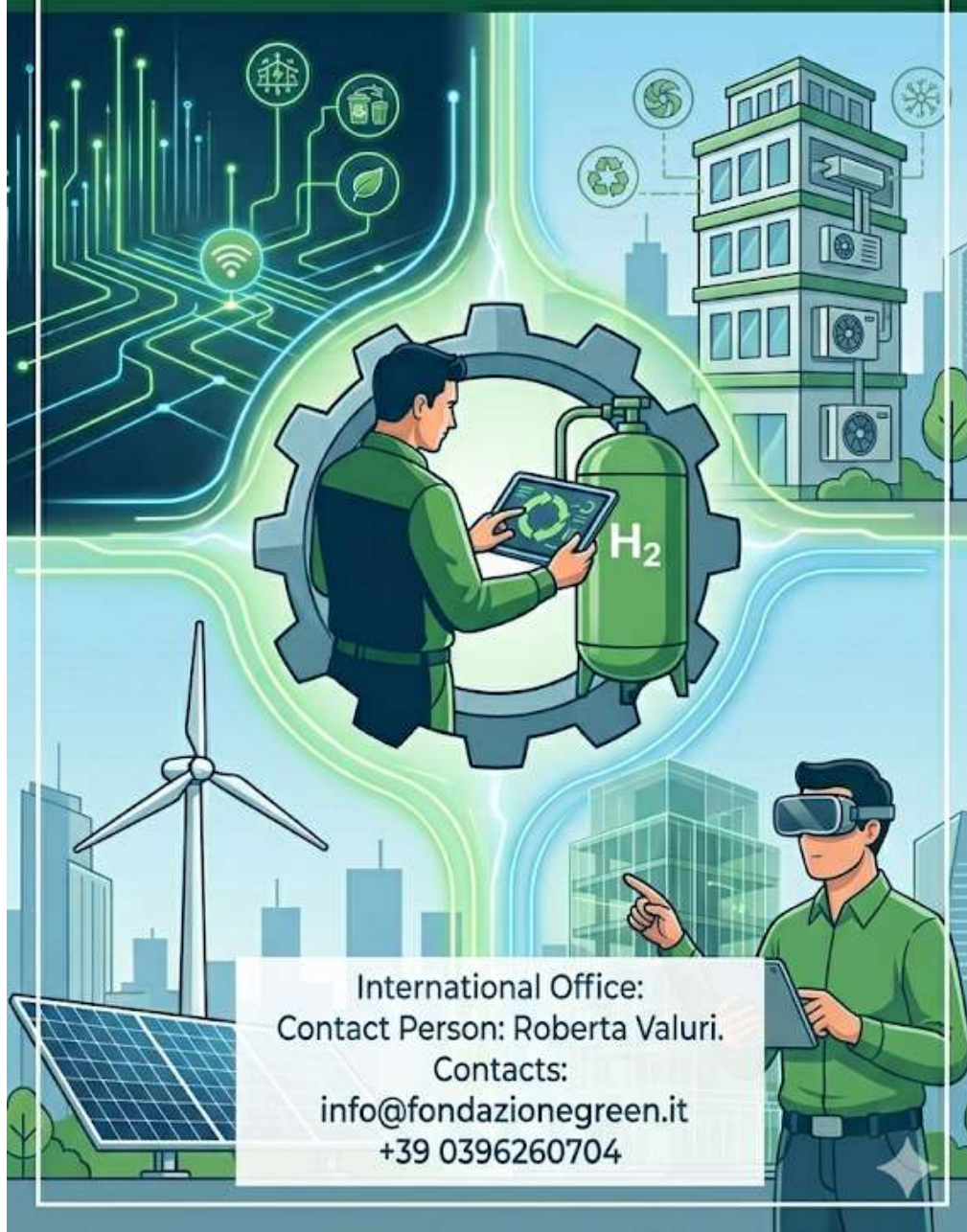


# ITS GREEN ACADEMY

ACADEMIC YEAR 2026-2028

## COURSE CATALOGUE

HIGHER TECHNICAL SPECIALIZATION DIPLOMA (EQF LEVEL 5)



International Office:  
Contact Person: Roberta Valuri.  
Contacts:  
[info@fondazionegreen.it](mailto:info@fondazionegreen.it)  
+39 0396260704

## **ITS Green Academy: Excellence and Innovation for the Ecological Transition**

The ITS Green Academy Foundation (Higher Technological Institute for Energy, Environment, and Sustainable Construction) stands as a strategic pillar in the Italian landscape of non-university tertiary education. Established to meet the growing demand for high-level technical skills, the Foundation operates in key sectors essential to national competitiveness and economic development: energy efficiency, renewable sources, sustainable mobility, and the digitalization of production processes.

### **Mission and Core Values**

The Academy's mission is to train "Higher Technicians" (EQF Level 5) capable of leading the challenges of the "Twin Transition"—ecological and digital. At the heart of the educational model is the concept of applied sustainability: viewed not just as an ethical principle, but as a practical competency used to optimize consumption, reduce environmental impact, and implement circular economy models within industries. The institute acts as a vital bridge between the education system and the labor market, ensuring a curriculum that is constantly updated through collaboration with over 450 partner companies.

### **The Educational Model: "Learning by Doing"**

The two-year training program (2,000 hours) is characterized by a strongly experiential approach. More than 98% of the teaching staff comes directly from the professional world, bringing real-world case studies, cutting-edge technologies, and industrial methodologies into the classroom. The teaching is balanced between technical theory and hands-on practice:

- 1,100 hours of lectures, seminars, and activities in technological laboratories (including Italy's first educational lab dedicated to green hydrogen production).
- 900 hours of operational internship (on-the-job training) within companies, ensuring direct immersion in production contexts.

### **General Information about courses**

- **Qualification awarded:**  
*Higher Technical Specialization Diploma in Applied Technologies* (EQF Level 5)
- **Length of Program:** 2 years (4 semesters).
- **Total Credits:** 120 ECTS (corresponding to 2000 total hours, including internship/on-the-job training).
- **Language of Instruction:** Italian (with specific modules in Technical English).
- **Academic Years:** 2024-2026
- **Admission Requirements:** High School Diploma, Technical test, and Motivational interview.
- **Grading System:**
  - **Italian Scale:** 0–100 (Minimum pass: 60).
  - **ECTS Scale:** A (Excellent) to E (Sufficient).

## Learning Paths: an overview



### Digital Energy Specialist

**Focus:** Integration between energy systems and digital technologies.

- **Digital Energy Core:** Arduino, PLC, IoT, Smart City technologies
- **Energy Systems:** Renewables, PV, Hydrogen, Energy Market
- **Project Management & Innovation**

### High-Efficiency HVACR Systems

**Focus:** Air conditioning, refrigeration, and environmental comfort.

- **HVACR Specialized Modules:** Air conditioning, Pressure systems, Cooling machines
- **Energy Systems & Plants:** Thermal plants, Energy communities, FER
- **Integrated Design:** BIM-Revit, Energy Diagnosis

### Smart Building & Digital Construction Manager

**Focus:** Digitalization of construction and intelligent building management.

- **Construction Design:** BIM, Digital Twins, Materials technology
- **Smart Building & IoT:** AI applied to buildings, Automation

- **Energy Efficiency:** Audit, Energy Diagnosis, FER integration
- **Life Cycle & KPI:** LCA, Circular Economy, Digital Site Management

### **Innovation Manager - Energy and Environment**

**Focus:** Strategic innovation management and sustainable business models for the ecological transition.

- **Project Management & Innovation:** Design Thinking, Business Models, Financial Education
- **Energy Systems & Monitoring:** Renewables, Energy Market, Monitoring Systems, Hydrogen
- **Enabling Technologies:** AI, Robotics, Arduino, Industry 4.0
- **STEM Subjects:** Math, Physics, Statistics, Excel
- **Integrated Design:** BIM-Revit, Energy Diagnosis

### **Alternative Energy Specialist**

**Focus:** Large-scale renewable energy production and smart grid management.

- **Energy Production Systems:** PV, Wind, Hydro, Hydrogen, Biomass, Nuclear
- **Energy Plants & Grid:** Electrical Plants, Transmission & Distribution, Safety certifications
- **Data Analysis & Monitoring:** Smart Metering, IoT, Remote Control & Maintenance
- **Integrated Design & Efficiency:** BIM/MEP, Energy Efficiency
- **Project Management & Market:** Project Management, Energy Market, Sales

### **Transversal Modules**

These modules are common to all paths:

- **Technical and Business English:** 40-50 hours.
- **Soft Skills & Career Planning:** 60-70 hours (Team building, Personal branding, Safety).
- **Sustainability:** 20-40 hours (Circular economy and Green transition).
- **Company Internship (Stage):** 45 % of total hours (900 hours).

# COURSE: DIGITAL ENERGY SPECIALIST



## Course: Digital Energy Specialist

Learning Area	Modules	Hours
<b>STEM &amp; Fundamentals</b>	Mathematics, Technical Physics, Statistics, Excel	90
<b>Technical English</b>	Technical & Business English	50
<b>Labor Market Intro</b>	Team building, Personal branding, Safety at work	60
<b>Management &amp; Innovation</b>	Design thinking, Project management, Sales, Entrepreneurship	100
<b>Regulations &amp; Standards</b>	GPP/CAM, Sustainability, Management Systems, Ethics & AI	45
<b>Energy Systems &amp; Plants</b>	FER, PV, Solar Thermal, Hydrogen, Energy Market, Electrotechnics	260
<b>Integrated Design</b>	BIM-Revit, Energy Diagnosis, Technical Drawing	100
<b>Digital Energy Core</b>	Arduino, PLC, IoT, Smart City technologies, Monitoring	235
<b>Enabling Technologies</b>	Robotics, Industry 4.0, Big Data & AI	85
<b>Sustainability</b>	Specific Sustainability Module	20
<b>Business Lab</b>	Business Laboratory	55
<b>INTERNSHIP</b>	On-the-job training in partner companies	900

## Learning Outcomes

The "Digital Energy Specialist" graduate will be able to:

- **Analyze and Optimize:** Manage energy flows using digital monitoring tools and IoT sensors.
- **Design Green Systems:** Implement renewable energy solutions (PV, Thermal, Hydrogen) through BIM modeling.
- **Implement Industry 4.0:** Use PLC, Arduino, and AI algorithms for smart energy management in buildings and cities.
- **Lead Innovation:** Apply Project Management and Design Thinking to sustainable energy investments.

# COURSE: HIGH-EFFICIENCY HVACR SYSTEMS



Learning Area	Modules	Hours
<b>STEM &amp; Technology</b>	Mathematics, Technical Physics, Statistics, Technology	90
<b>Technical English</b>	Technical & Business English	50
<b>Labor Market Intro</b>	Team building, Personal branding, Safety	60
<b>Management &amp; Innovation</b>	Project management, Sales, Finance, Entrepreneurship	80
<b>Legislation &amp; Standards</b>	Handbooks, Refrigerant fluids, Maintenance	70
<b>Energy Systems &amp; Plants</b>	FER, PV, Solar, Hydrogen, Energy Communities	250
<b>HVACR Specialization</b>	Air conditioning, Cooling machines, Welding, Acoustics	320
<b>Sustainability</b>	Sustainability	20
<b>Integrated Design</b>	BIM-Revit, Technical drawing, Energy Diagnosis	90
<b>Business Lab</b>	Business Laboratory	70
<b>INTERNSHIP</b>	On-the-job training	900

## Learning Outcomes

Upon completion of the course, the graduate will be able to:

- **HVACR Systems Management:** Design, install, and test complex air conditioning and refrigeration systems, ensuring thermo-hygrometric comfort.
- **Thermal Efficiency:** Perform energy audits and efficiency interventions on cooling machines and pressurized fluid systems.
- **Renewable Sources:** Integrate heat pumps, solar thermal, and hydrogen systems into civil and industrial thermal plants.
- **Advanced Maintenance:** Plan predictive maintenance and manage refrigerant fluids in compliance with current environmental regulations.

# COURSE: INNOVATION MANAGER - ENERGY & ENVIRONMENT



Learning Area	Modules	Hours
<b>STEM &amp; Tools</b>	Mathematics, Physics, Statistics, Excel	90
<b>Technical English</b>	Technical & Business English	50
<b>Labor Market Intro</b>	Team building, Personal branding, Safety	60
<b>Innovation Management</b>	Project management, Design Thinking, Business Models	255
<b>Legislation &amp; Admin</b>	Environmental Law, GPP/CAM, Public Administration Services	50
<b>Enabling Technologies</b>	Robotics, Data analysis, Arduino, AI, Industry 4.0	120
<b>Energy Systems &amp; Plants</b>	FER, PV, Hydrogen, Electrotechnics, Monitoring	265
<b>Integrated Design</b>	Integrated Design, BIM-Revit, Diagnosis	120
<b>Sustainability</b>	Sustainability	40
<b>Business Lab</b>	Business Laboratory	50
<b>INTERNSHIP</b>	On-the-job training	900

## Learning Outcomes

Upon completion of the course, the graduate will be able to:

- **Innovation Strategy:** Lead the ecological transition of companies through new circular and sustainable business models.
- **Project Management:** Manage complex projects by evaluating the economic impact of green investments and operational budgets.
- **Environmental Compliance:** Ensure compliance with environmental regulations (Environmental Law, GPP/CAM) and certified management systems.
- **Digital Transformation:** Implement enabling technologies (robotics, AI) to improve production processes from a sustainability perspective.

# COURSE: SMART BUILDING & DIGITAL CONSTRUCTION MANAGER



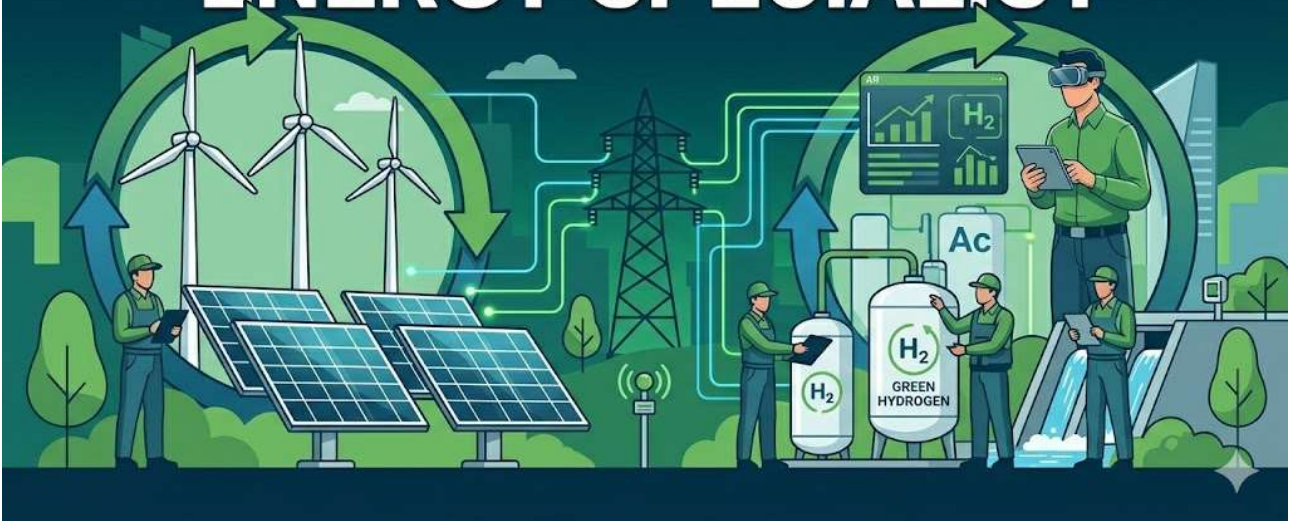
Learning Area	Modules	Hours
<b>STEM &amp; Technology</b>	Mathematics, Physics, Statistics, Technology	80
<b>Technical English</b>	Technical & Business English	50
<b>Labor Market Intro</b>	Team building, Safety (Title IV - Construction Sites)	70
<b>Management &amp; Innovation</b>	Project management, Sales, Entrepreneurship	90
<b>Rules &amp; Procurement</b>	EPBD (Green Buildings), Procurement Code, GPP/CAM	110
<b>Digital Design (BIM)</b>	Materials technology, BIM, Digital Twins, Surveying	210
<b>Smart Building (AI/IoT)</b>	Applied AI, Building Automation, IoT	80
<b>Energy Efficiency</b>	Energy Efficiency, FER/REC, Audit and Diagnosis	190
<b>Life Cycle &amp; KPI</b>	LCA, KPI, Digital Construction Site, Circular Economy	160
<b>Business Lab</b>	Business Laboratory	60
<b>INTERNSHIP</b>	On-the-job training	900

## Learning Outcomes

Upon completion of the course, the graduate will be able to:

- **BIM Management:** Manage the entire life cycle of a building through BIM methodologies, Digital Twins, and data interoperability (IFC).
- **Building Automation:** Implement Building Automation and Control systems to create intelligent and interconnected buildings.
- **Digital Construction Site:** Coordinate construction phases using innovative survey tools and digitalized construction techniques.
- **Life Cycle Assessment (LCA):** Evaluate the environmental impact of constructions and manage KPIs for material efficiency and circularity.

# COURSE: ALTERNATIVE ENERGY SPECIALIST



Learning Area	Modules	Hours
<b>STEM &amp; Tools</b>	Mathematics, Physics, Statistics, Excel	80
<b>Technical English</b>	Technical & Business English	40
<b>Labor Market Intro</b>	Team building, Personal branding, Safety	60
<b>Management &amp; Innovation</b>	Project management, Sales, Entrepreneurship	80
<b>Legislation &amp; Ethics</b>	Ethics and AI, Permitting, Handbook	45
<b>Energy Market</b>	Energy Market	40
<b>Production Systems</b>	PV, Wind, Hydroelectric, Hydrogen, Nuclear, Biomass	280
<b>Energy Plants</b>	Electrotechnics, Safety certifications (PES PAV PEI), Measurements	120
<b>Transmission &amp; Grid</b>	Energy transmission and distribution	70
<b>Integrated Design</b>	BIM/MEP, Energy Efficiency	100
<b>Data Monitoring</b>	Remote management, IoT, Smart Metering	80
<b>Enabling Technologies</b>	Cybersecurity, Big Data & AI	40
<b>Sustainability</b>	Sustainability	25
<b>Business Lab</b>	Business Laboratory	40

Learning Area	Modules	Hours
<b>INTERNSHIP</b>	On-the-job training	900

### Learning Outcomes

Upon completion of the course, the graduate will be able to:

- **Energy Production:** Manage industrial-scale renewable energy production plants (Wind, Hydroelectric, Solar, Biomass).
- **Grid Management:** Analyze energy transmission and distribution systems, as well as the logic of the national and European electricity markets.
- **Energy Communities:** Design and coordinate collective self-consumption configurations and Renewable Energy Communities (REC).
- **Smart Grid & Security:** Implement Smart Metering solutions and ensure the Cybersecurity of critical energy infrastructures.