A Smart City on a Human Scale

UPPER SECONDARY SCHOOL

Subject areas

GEOGRAPHY | HISTORY | MATHEMATICS | SCIENCE | TECHNOLOGY

Designing the city: beautiful, intelligent, and sustainable

Smart cities are the way of the future, with the integration of knowledge, infrastructure, and the technologically advanced machines of a communication and information society. Cities designed to achieve **sustainable growth** and to **improve the quality of life**. From **mobility** to energy efficiency, telecommunications and security, and to quality of the environment and of life. Participants will start by examining the case of Milan, which leads the way as the "smartest" city in Italy, and they will learn that every aspect of urban life can be interpreted in a way that is "smart". Acting as **mobility managers**, the students will organise themselves into groups and take inspiration from the innovations introduced by Pirelli in the field of sustainability, using documents from the Historical Archive to design a new mobility system that will contribute to the development of the city.

Location
Pirelli Foundation

Total duration
About 2 hours and 30 minutes

BOOK NOW

#SmartCity #Sustainability #RoadSafety #Travel #Bicycle #Future #Environment #Technology #Digitisation

A look at some of the subjects and documents selected for this course

Smart mobility
Moving around the City of Tomorrow

Pirelli: Sustainable Culture
April 2016 - September 2017

Roberto Guiducci, Due città verso il futuro
Pirelli magazine, 1963, no. 6

Tyre Chemistry

UPPER SECONDARY SCHOOL

Subject areas

CHEMISTRY | HISTORY | NATURAL SCIENCES | PHYSICS

Natural rubber and lots of other ingredients: the recipe for Pirelli tyres

The company has always given great importance to research, as can be seen in ***Scientific Research***, a work by Renato Guttuso, now in the Pirelli Foundation, which shows scientists studying the world with instruments and microscopes, commissioned by Pirelli for Expo 61. Today, almost 2,000 people work in its laboratories around the world, creating top-quality tyres and experimenting with new recipes for the compounds. The students will start by examining **patents, magazines, recipes for compounds and historical books in the Pirelli Scientific and Technical Library**, finding out about the context in which the **Milano-Bicocca laboratories** took shape, and where the **Nobel Prize Laureate Giulio Natta** studied the first prototypes of synthetic rubber in the 1930s. Still today, raw materials, natural rubber, accelerating agents, resins, vulcanising agents, oils and additives are subjected to stringent tests in the chemical laboratory at the Pirelli Headquarters in Milan, before the tyre is completed. During the visit to the chemical laboratory, expert colleagues will help the students understand the workings of the main analysis tools used in a modern laboratory.

Location
Pirelli Foundation and the Pirelli Physics Laboratories in Milano Bicocca

Total duration
About 2 hours and 30 minutes

BOOK NOW

#Sustainability #Research #Innovation #AvantGarde #Chemistry #GiulioNatta #Tyre #Rubber

A look at some of the subjects and documents selected for this course

L'avvenire della gomma sintetica

E. R. Rowzee, vice presidente e direttore generale della Polymer Corporation Ltd. di Sarnia nel Canada completa con questo saggio le prospettive dell'industria della gomma già precedentemente illustrate per altri aspetti da J. T. Blake e da W. E. Cake in articoli pubblicati nei fascicoli 3 e 4 di questa rivista

E. R. Rowzee, L'avvenire della gomma sintetica
Pirelli magazine, 1954, no. 6

Research and development in history

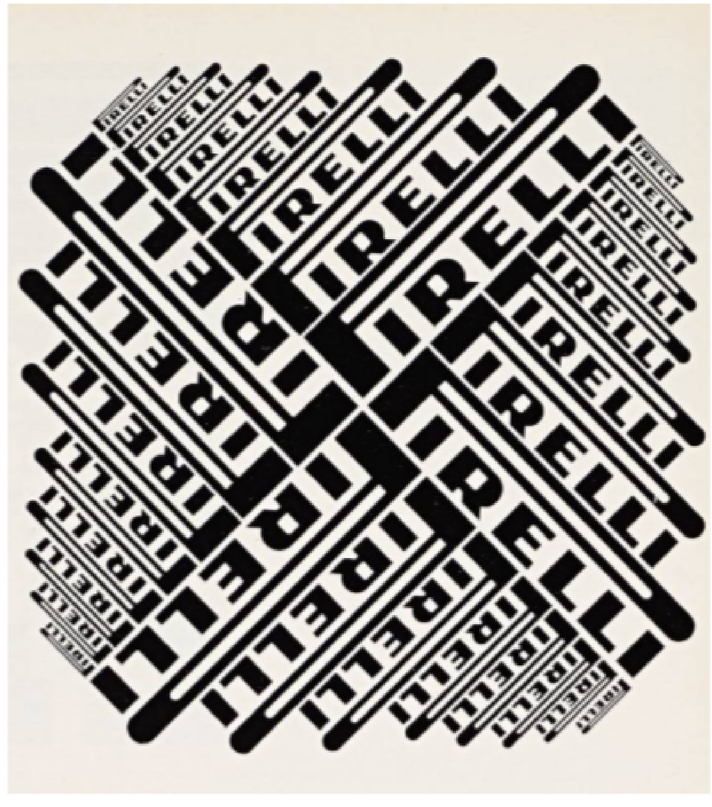
Formulas for the production of rubber articles
1901

Tyres with a Capital P

UPPER SECONDARY SCHOOL

Subject areas

ART | ART HISTORY | GRAPHIC ART | ITALIAN LANGUAGE AND LITERATURE



150 years of advertising graphics in a logo

The **Pirelli logo** has gone through a fascinating evolution in its long history. From when it was first introduced in 1907 as a unique, instantly recognisable sign that recalled **the elasticity of rubber**, through to the most recent versions created by Studio Unimark International and Studio Cerri & Associati, by way of the many variations and updates in terms of the colour, ratios and thicknesses of the letters. Ever since it was first set up, the company has worked on its visual communication with **the most famous artists and graphic designers**, and in the 1960s it even had its own internal advertising agency, **Agenzia Centro**. Christiane Beylier, André François, Bruno Monguzzi, Ilio Negri, Bob Noorda, Pino Tovaglia, and Christa Tschopp are just some of those who have helped achieve the success of the **innovative Long P advertising campaigns** that the kids will find out about during their visit to the Pirelli Historical Archive. The students will then put their newly acquired knowledge into practice and, taking inspiration from the designers' play of duplication and projection of the logo, they will use the elongated P of Pirelli to create a new graphic composition.

Location
Pirelli Foundation

Total duration
About 2 hours and 30 minutes

BOOK NOW

#Creativity #VisualCommunication #Identity #GraphicDesign #Art #Innovation #Logo

A look at some of the subjects and documents selected for this course

Pirelli: Advertising with a Capital P

André François, Sketch for Pirelli advertising campaign
1961

Pirelli: Advertising with a Capital P
1978

The Digital Factory – Next MIRS Milano Bicocca

UPPER SECONDARY SCHOOL

Subject areas

COMPUTER SCIENCE | HISTORY | PHYSICS | SYSTEMS AND AUTOMATION

People and technology for a digital industry

A visit to the Pirelli Foundation, which is home to the company's Historical Archive and a Scientific and Technical Library with over 16,000 volumes and magazines, will show the students the different technological stages of a company that has been **innovative from the outset**, and the first in Italy to produce rubber objects and, later, tyres. One of the most advanced manufacturing tools today is the robotic **Next MIRS** (Modular Integrated Robotized System), a production line with anthropomorphic robots that provides maximum flexibility in the production of extremely high-performance tyres. The students will then be shown around the Milano-Bicocca factory, which uses this **automated production line**, where the technical staff will show them every stage involved in the creation of prototypes and tyres, which are some of the most innovative ever in terms of safety and sustainability.

The course is reserved for students over 18

Location
Pirelli Foundation and Next MIRS Factory in Milano Bicocca

Total duration
About 2 hours and 30 minutes

BOOK NOW

#Factory #Robot #NextMIRS #Innovation #Musica #Tyre #Tire #DigitalFactory #Work #Industry4.0 #Research #Automation

A look at some of the subjects and documents selected for this course

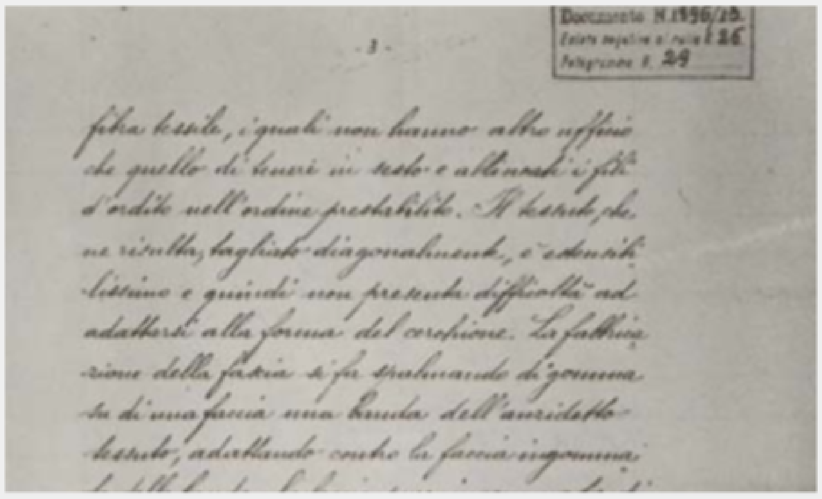

Nel cervello di uno studente romantico

il progetto di un'industria nuova

1872

P. E. Gennarini, Nel cervello di uno studente romantico il progetto di un'industria nuova
Pirelli magazine, 1949, no. 1

Next MIRS



"Ercole" patent
1901

Tyre Physics

UPPER SECONDARY SCHOOL

Subject areas

CHEMISTRY HISTORY NATURAL SCIENCES PHYSICS

A long history of sustainability: processes, raw materials and products

Tyres are highly complex products that need to perform multiple functions. They consist of various parts, each of which has a precise structural function and its own chemical and physical properties. Pirelli's constant attention to the **raw materials** used for the manufacture of its tyres and the way they are combined to obtain an ultra-high-performance product can be clearly seen in the **documents in the Historical Archive**. An interactive journey through **patents**, **recipes**, and **technical drawings**, starting from the raw materials, for a close-up view of how the "**rubber soul**" of a tyre is made, and with what and how many elements it is manufactured. Expert colleagues will show the kids the **physics laboratory** where they will follow the creation of a compound and the vulcanisation process. They will be able to observe the various static and dynamic tests the materials are subjected to in order to measure all the physical properties of the rubber using state-of-the-art instruments.

Location
Pirelli Foundation and the Pirelli Physics Laboratories in Milano Bicocca

Total duration
About 2 hours and 30 minutes

BOOK NOW

#Sustainability #Research #Innovation #AvantGarde #Tyre #Rubber

A look at some of the subjects and documents selected for this course

The scientific and technical library

The visit of Victor Emmanuel III to Bicocca

Vado e Torno magazine, "What is inside a tyre"
1964

Tyres: The Invention that Made the World Move

UPPER SECONDARY SCHOOL

Subject areas

CHEMISTRY | HISTORY | MATHEMATICS | NATURAL SCIENCES

Tests and trials for new Pirelli tyres

Pirelli began manufacturing tyres for cars in 1901 and by 1907 it had already won **the adventurous Beijing-Paris race**. Scipione Borghese's Itala car, fitted with Pirelli tyres, thrashed the competition and reached the finish line two weeks before the runners-up. Tyres have been transformed many times since then, as the result of constant research, which has made them increasingly safe and sustainable. **Designing and creating a tyre** is a complex and fascinating process: from the choice of materials, to resistance and noise tests on the prototypes, through to production in highly technological factories. Using digital tools and examining **documents** (technical drawings, specifications, recipes) **in the company's Historical Archive** will enable the students to follow the entire process that leads to the finished tyre, ready for the market. The **visit to the Pirelli research and development laboratories** will show the students the laser that is used to create the pattern of the tread on the prototype, the gouge that carves out the smooth rubber, and the tests on the contact area and noise levels that a tyre needs to pass.

Location
Pirelli Foundation and Pirelli testing laboratories - indoor tests

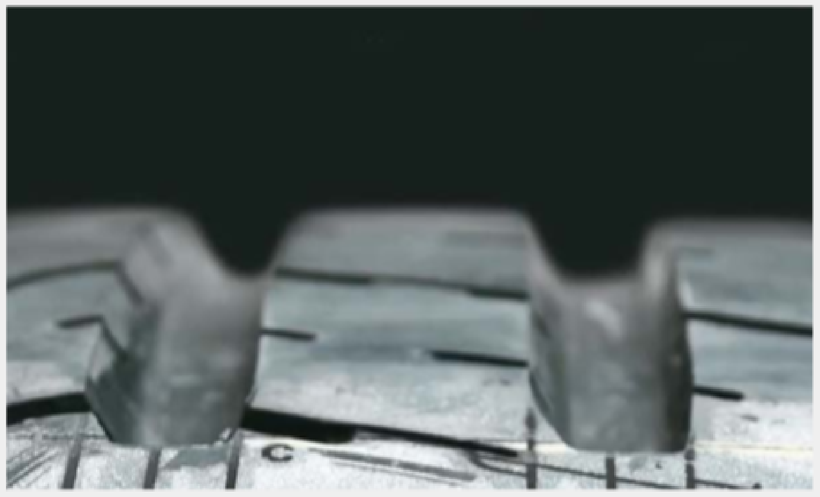
Total duration
About 2 hours and 30 minutes

BOOK NOW

#Sustainability #Innovation #Research #Production #Technology #Safety #SmartTyres

A look at some of the subjects and documents selected for this course

Pirelli R&D



Silver - The Invisible Heart of a Tyre

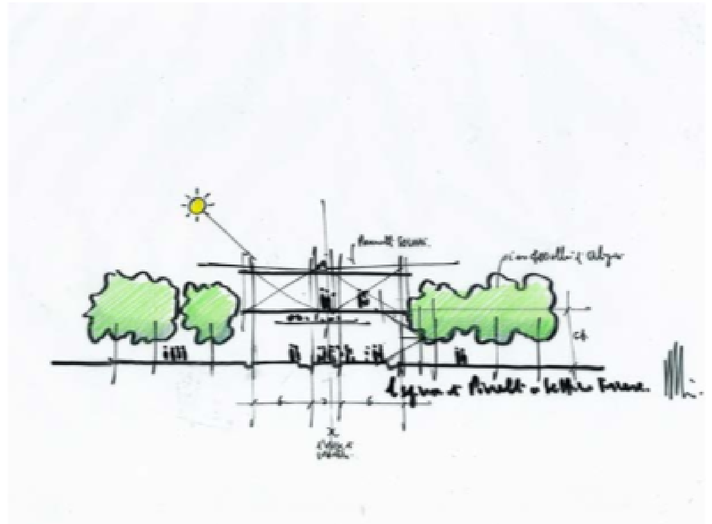
Tyre Testing
1963

The Factory in the Cherry Orchard

UPPER SECONDARY SCHOOL

Subject areas

HISTORY | NATURAL SCIENCES | PHYSICS | SYSTEMS AND AUTOMATION



The evolution of the factory of the future

Created by merging two historic factories that had been operating for more than 60 years, the **Pirelli Centre in Settimo Torinese** now covers an area of over 250,000 square metres and is one of the most technologically advanced facilities of the Group for the manufacture of **high- and ultra-high-performance tyres** with **reduced environmental impact**. In 2011, the **architect Renzo Piano**'s design of the "Spina" – a facility with services and laboratories set alongside an orchard with **400 cherry trees** – radically transformed the factory in Settimo Torinese. Before they go to see the production departments, the students will be given an introduction by the staff of the Pirelli Foundation: from the first Pirelli factory in Milan for the production of rubber products, to the expansion of the company as a multinational, all the way to the present day, with the digital factory and its sounds. The students will follow **all the various stages of tyre production**: the mixing of raw materials, the preparation, vulcanisation, and the visual inspection that every single product is subjected to. The **state-of-the-art Next MIRS robotic line**, which produces high-performance, customisable tyres is particularly fascinating.

The course is reserved for students over 18

Location
Pirelli Technological Centre in Settimo Torinese (Turin)

Total duration
About 3 hours

BOOK NOW

#Factory #Robot #NextMIRS #Innovation #Music #Tyre #Tire
#DigitalFactory #RenewableEnergy #RenzoPiano #Work #Industry4.0

A look at some of the subjects and documents selected for this course

Il Canto della Fabbrica


IL NUOVO STABILIMENTO DI TORINO

The New Factory in Turin
Fatti e Notizie, 1954, no. 2

R. Guiducci, Architettura e industria: molti pregiudizi da superare
Pirelli magazine, 1960, no. 4