

# SMART CITIES & ENGINEERING for Sustainable Architecture

A 4-week, 4-theme program taught in English  
**July 1<sup>st</sup> to 26<sup>th</sup>, 2019** | Paris and Troyes





# A SUMMER SCHOOL OF APPLIED SCIENCES

EPF-ESTP Summer Program on **Smart Cities & Engineering for Sustainable Architecture** offers an in-depth study on topics such as engineering for eco-cities and smart cities, environmental issues, city planning and architecture for the future.

Mainly designed for Undergraduate and Master students with a major in Engineering, Architecture, Urban planning/design, Sociology or Computer Sciences. The program is organized in 4 independent modules in the two cities of Troyes and Paris:

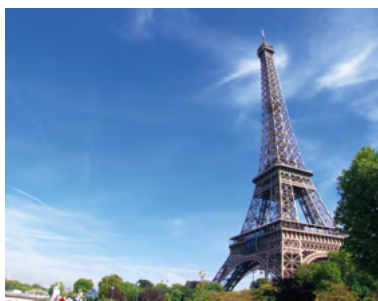
- Energy efficiency, comfort & culture
- Security & resilience in [smart] cities
- Bio-architecture & bio-city
- Digital connected city & architecture

The city of Troyes situated 170 km from Paris, with its rich architectural heritage is a remarkable witness of its glorious past. The 16<sup>th</sup> century houses in the old town is with no doubt among one of the most iconic medieval architecture of France. Today, it is mandatory to conserve these treasures and also to provide necessary measures to increase their energy efficiency and comfort in order to offer healthy dwellings with a higher degree of wellbeing to the occupants.

Despite the attractiveness of the city of Troyes, the city is subject to several natural risks. The presence of the Seine river and its affluent and the clay soil make the city an interesting case study for strategic urban management. Moreover, the mass construction and suburbanization on the outskirts of the city on one side and advancement of smart technologies on the other resulted in many consequences concerning security such as social or technological risks.

Paris has fascinating examples of architecture from Middle Ages to more recent times. There are numerous bioclimatic buildings and sustainable approaches that effort on providing social, economic and environmental equity. Parisian green roofs, bio-urban agriculture and eco-villages are some of these projects that aim in reducing urban heat island effect and provide Parisians with a more pleasant urban experience.

Due to progress in technologies, the vibrant city of Paris is also dealing with new challenges of digital transition and is confronted to new topics such as energy transition, new mobility solutions and citizen science. Therefore, Paris by combining the concept of sustainable city with open data city and connected city aims for transformation of the territory into a smarter one. Paris smart city promotes public participation of citizens, data visibility, interconnected networks and participatory projects for a more livable future.



## ACADEMIC TOPICS

Students can participate in one or several modules:

<b>Module 1</b>	Energy efficiency, comfort & culture	July 1-5 2019	Troyes
<b>Module 2</b>	Security & resilience in [smart] cities	July 8-12 2019	Troyes
<b>Module 3</b>	Bio-architecture & bio-city	July 15-19 2019	Paris-Cachan
<b>Module 4</b>	Digital connected city & architecture	July 22-26 2019	Paris-Cachan

**Within this 4-module program a particular attention is dedicated to the following subjects:**

- Smart cities
- Building Information Modelling (BIM)
- Domotics
- Urban comfort
- Interior comfort
- Energy efficiency
- Security
- Sustainability
- Digital transition
- Energy transition

Each module is composed of several workshops and a real case study.

Upon success, by the end of each module, students may obtain a certificate and 2 Credits (ECTS).

## CULTURAL VISITS AND FIELD TRIPS

Besides the academic lectures and projects, EPF & ESTP Engineering Summer School organizes a cultural program, which will allow students to discover 2 of the most beautiful areas of France: Paris & the Champagne region.

**Cultural visits may include:**

- Project's site visit
- Architectural sightseeing
- Historical sightseeing
- Museums
- Theatre
- Bateaux mouches cruise on the Seine River, Paris
- Tastings in the Champagne-Ardenne Region

All students will be initiated to the French language in addition to cultural visits, which will contribute to a perfect understanding of the local social and professional environment.

*Note: Program content may be subject to change or cancellation based upon low enrollment*

## APPLICATION AND FEES

The program fee of **950 €** a week covers:

- Tuition and documentation
- Welcome and farewell events
- Access to EPF and ESTP Paris facilities
- Free internet access
- Official programme certificate
- Cultural and social events
- Lodging expenses

**For students attending the 4 modules a special fee of 3.500 € will apply.**

Living expenses, individual insurances and visa fees are not included.

**Applications on [www.epf.fr/en](http://www.epf.fr/en)**

## ACCOMMODATION AND SUPPORT

Accommodation in student residences will be organized by EPF and ESTP. Shops and transports will be easy to reach.

*"The summer school program in "Smart cities & Engineering for sustainable architecture "has enabled me to have a clear view of how to implement our theoretical knowledge in practical aspects. The visits of Challenger, Bouygues headquarters, Troyes tourist information building, and many others, gave us a realistic approach of the building. The summer program taught us how to handle problems keeping in mind the required norms and regulations of building. The experience in France has helped me widen my vision by working with international architects and students having different creativity and thinking criteria. The main aim of coming to France was to analyze the studies being carried out there and I can surely say that I would love to go back to France for my master's degree. This whole experience (the visits, lectures and workshops), really helped me enrich my knowledge and skills."*

Himanshi, India



**APPLICATION DEADLINE**  
**April 15, 2019**



## EPF - Ecole d'ingénieur-e-s

**Founded in 1925** and located in Sceaux, Troyes and Montpellier, EPF is one of the best post-secondary School for general engineering sciences. In 1991, EPF - Graduate School of Engineering - acquired the status of Public Foundation and became co-educational in 1994. **EPF offers to its 2 000 students a year (including 15% of international students) a five-year post-secondary engineering sciences curriculum.** First three years consist in a general curriculum. In 4th year, students chose among 7 different Majors: Aeronautics & Space, Structures & Materials, Engineering & Health, Engineering & Management, Engineering & Digital technologies, Energy & Environment, Buildings & Eco-cities. **EPF's diplomas are accredited by the French Ministry of Higher Education and Research** and the "Commission des Titres d'Ingénieurs". EPF is a member of both the "Conférence des Grandes Ecoles" (CGE) and the "Union des Grandes Ecoles Indépendantes" (UGEI).

EPF's curricula favors a faster integration into the job market with one of the highest starting salaries amongst post-secondary schools. **More than 11 500 graduated engineers from EPF** are spread out within the industry and service sectors.



## ESTP - Paris

**Ecole Spéciale des Travaux Publics, du Bâtiment et de l'Industrie** was founded in 1891 as a private higher education institution and officially recognized by the French government in 1921. Its degrees are accredited by the Ministry of Higher Education & Research and the "Commission des Titres d'Ingénieurs" (CTI).

Several training programmes have been awarded quality labels, such as EUR-ACE & RICS.

In France, ESTP Paris counts over 2 800 students, a network of 45 000 Alumni and trains **the biggest students flow for the construction industry** and has made its reputation as THE "Grande Ecole" for professionals in this area: construction, planning & development, project and facilities management, sustainable buildings & infrastructures, design, rehabilitation, maintenance, real estate, topography-surveying, materials, energy efficiency, building information modelling, etc.

The main characteristics of ESTP Paris are its **close links to industry**, its strong **international relations** (88 partner universities in 38 countries), its **equal opportunities policy** and the emphasis put on **sustainable development**.

# CONTACT

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