

3D Concrete Printing

Erasmus+ Blended Intensive Program

Paris & Orléans, France
30th June - 11th July 2025

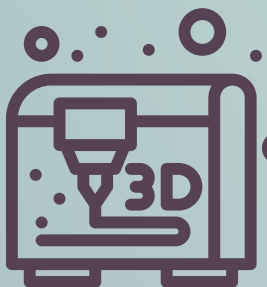
Take part in a short theoretical and practical training around 3D printing from architecture to printing

Learn about the benefits and impact of the 3D printing on the environment, by reducing the quantity of materials printed and using low-carbon inks

Earn 3 ECTS

Experience exciting social events and cultural in vibrant cities of Paris and Orléans

Attend virtual lectures and work in teams on projects





Tentative program

may be subject to changes

Virtual part of the program:

Date and time of the virtual component will be announced soon.

Face-to-face part of the program includes the following activities:

[WEEK 1] 30 June - 6 July, 2025

Date	Location	Morning activity	Afternoon activity
Monday 30/06	Cachan	Arrival	Welcome & Project Brainstorming
Tuesday 01/07	Cachan	Project Design : design and conception and 3D modeling	Field trip / visit
Wednesday 02/07	Cachan	Lecture and practical work: Cementitious materials, Rheology, Application to 3D concrete printing	Optional cultural activity or Free time
Thursday 03/07	Cachan	Project Design in Lab: Mortars formulations	Field trip / visit
Friday 04/07	Cachan	Project Design in Lab : Mortars formulations	Free time
Saturday 05/07	Cachan	Free time	Free time
Sunday 06/07	Orléans	Transfer from Cachan to Orléans / Visit	

[WEEK 2] 7 - 11 July, 2025

Date	Location	Morning activity	Afternoon activity
Monday 07/07	Orléans	Lecture and Practical work: rheology	Cultural visit / activity
Tuesday 08/07	Orléans	Lecture and Practical work: robotic, printer installation, experimental protocol	Project Design 4 : Finalisation of the design and modelisation of the object / 3D modeling
Wednesday 09/07	Orléans	Labwork 2 : Printing / preparation of final presentation	Labwork 3 : Printing / preparation of final presentation
Thursday 10/07	Orléans	Labwork 4 : Printing / preparation of final presentation	Labwork 5 : Printing / preparation of final presentation
Friday 11/07	Orléans	Project Final presentation	Closing ceremony Travel back to Paris

***** End of the program *****

Learning outcomes

At the end of the program, students will be able to:

- Design and print a complex shape.
- Formulate and characterize a cementitious ink.
- Formulate and characterize an alternative ink by replacing a percentage of cement with an industrial by-product or an addition and the natural sand by recycled one.

Total Workload

62 hours (virtual and face-to-face)





Who can participate



- Academic: open to Bachelor and Master's students in Civil Engineering
- Language : English level B2.
- Prior knowledge: strength of materials, physico-chemical analysis methods, characterization of mechanical properties of materials, materials science, modeling, computer science.
- Students must come through the Erasmus scheme.



ECTS and Evaluation

Upon completion of the program, students will earn 3 ECTS. The assessment will be based on a final presentation.

Recognition



A certificate of attendance will be provided to all participants.

A certificate of completion will be provided to successful participants. Recognition and credit transfer to home university will be possible.



Practical information



Accommodation

[Week 1 in Cachan]

Studio apartment in a student dorm are available on campus. Reservations will be made through ESTP upon confirmation of enrollment. Other options are available in Paris and nearby cities.

[Week 2 in Orléans]

Several affordable options are available in Orléans' city center.



Transportation



Participants are responsible for all travel arrangements between their home country and France.

Trips between Paris and Orléans are covered by ESTP.



Fee

The program is free of charge as it is conducted under the Erasmus+ program.

Students are responsible for their own accommodation, meals and personal expenses. Student expenses may be covered by an Erasmus grant (individual and travel assistance) provided by the home institution.





2025 APPLICATIONS NOW OPEN

Application deadline:
January 27th, 2025



How to apply

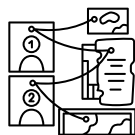
Step 1

Applicants must provide the following application documents to their Home Institution's Erasmus Office:

- o A CV in English
- o English level certificate (provided by home institution)
- o A copy of the latest transcript of records translated in English
- o A motivation letter stating why you would like to participate in this Erasmus+ BIP (1 A4 page maximum, written in English)
- o A copy of a valid EU ID/Passport

Step 2

The Erasmus office sends us the applications along with a nomination sheet completed with the name and personal details of all applicants.



Selection and Enrolment

Students will be selected by the BIP's academic coordinators based on the following criteria:

- academic results (transcripts of records)
- suitability of academic background
- motivation
- level of English language proficiency

Students will be notified of the selection results by February 3rd. Selected students will be contacted to start the enrollment process.

Academic coordinators

- Dr. Céline Florence, Head of Concrete Materials Engineering Chair (ESTP)
- Dr. Eliane Khoury, Associate Professor in Civil Engineering (ESTP)
- Pr Sébastien Rémond, Full Professor (University of Orléans)
- Dr. Szymon Skibicki, Assistant Professor (West Pomeranian University of Technology)
- Mr. Edvinas Pocius, PhD candidate (VilniusTech)
- Dr. Bárbara Rangel Carvalho, Assistant Professor (Faculdade de Engenharia da Universidade do Porto)

Administrative support

For any questions, please contact Ms. Naoil Bendrimia, Erasmus Coordinator:
Email: nbendrimia@estp.fr
Tel: +33 (0)1 49 08 24 66

BIP Partners

- West Pomeranian University of Technology
- Polytech Orléans, University of Orléans
- VilniusTech
- Universidade do Porto, Faculdade de Engenharia
- ESTP, Concrete Materials Engineering Chair (IdB) (coordinating institution)

