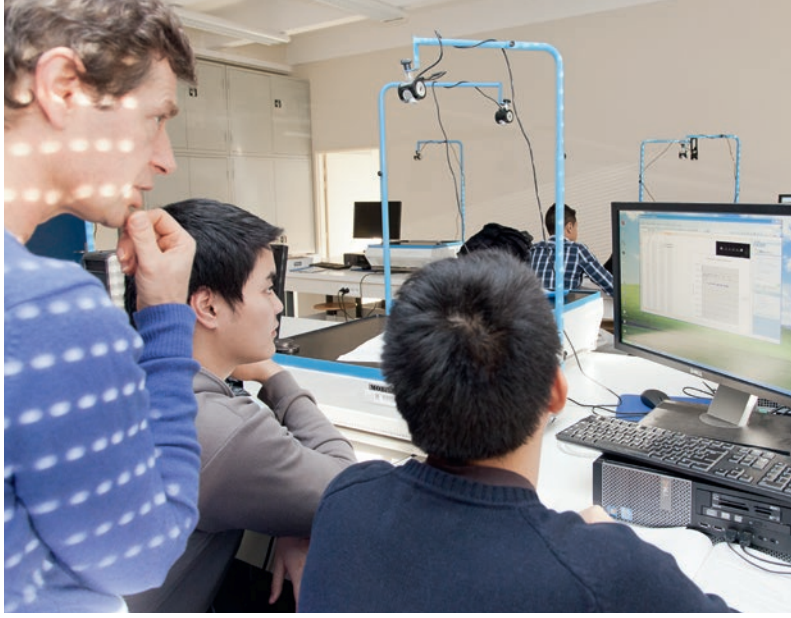
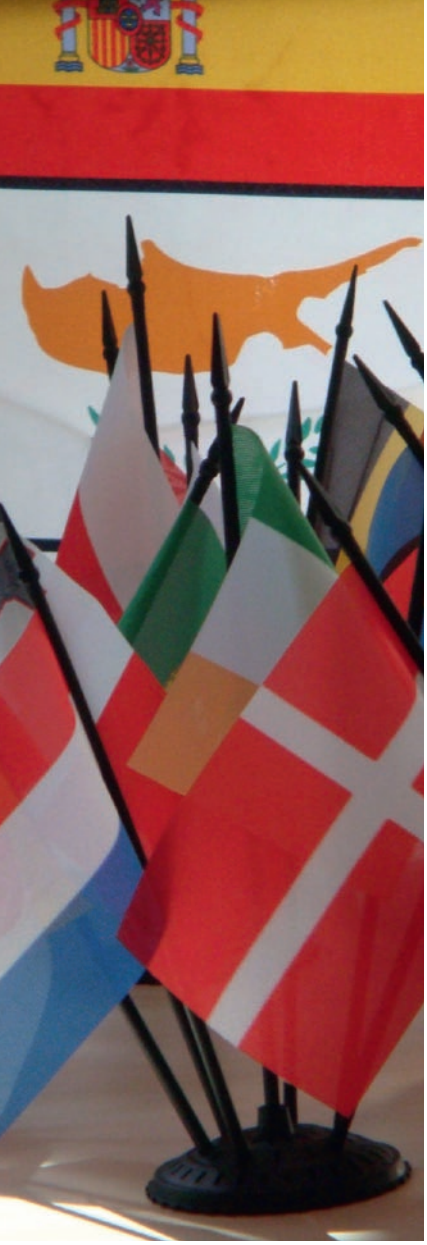


UNIVERSITY OF PARIS-EST - CRETEIL - VAL DE MARNE

FACULTY OF SCIENCE AND TECHNOLOGY

UPEC
UNIVERSITÉ PARIS-EST CRÉTEIL

FACULTÉ DES SCIENCES
ET TECHNOLOGIE



RESEARCH

The Faculty of Science and Technology has clearly announced its intentions to develop research activities in conjunction with its teaching mission.
This extremely close bond between training and research entails, among other things, the presence of at least one reference laboratory for each subject area offered at the Faculty, resulting in the association of nine administratively qualified laboratories. Their research activities focus on topics that tend to span across disciplines, namely biology and health ; chemistry, physics and material science ; mathematics, information and communication science and technology ; and environmental sciences.
The majority of these reference laboratories rely heavily on the existence of technical facilities and moreover establish their research programs by developing a wide-ranging set of partnerships with public-sector or quasi-public entities, as well as with private firms, at both the national and international levels.
Their recognition is drawn from three “Labex” (i.e. laboratories noted for their excellence) operating within the Paris-East academic community: Bezout (Models and algorithms: extending from discrete to continuous), Urban Futures (Planning, architecture, environment and transport for the sustainable city), and MMCD (Modeling and experimentation for sustainable construction).

Research laboratories:

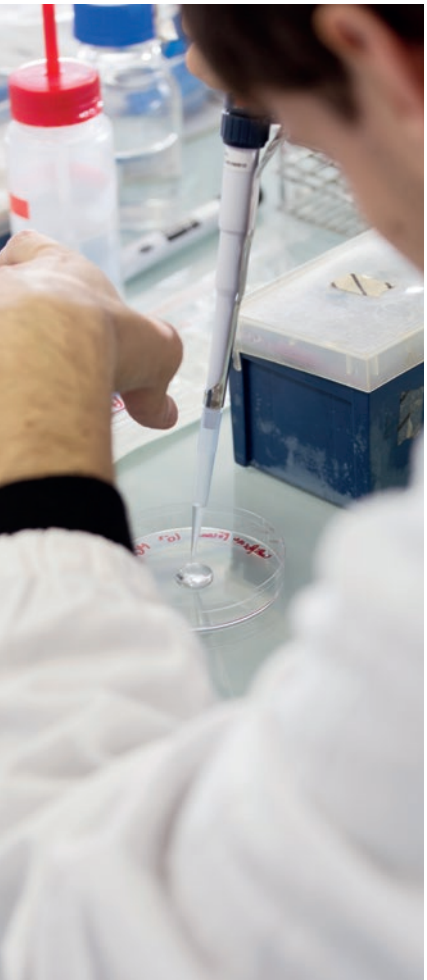
- **LAMA:** Laboratory of Analysis and Applied Mathematics
- **LACL:** Laboratory of Algorithms, Complexity and Logic
- **MSME:** Multi-Scale Modeling and Simulation
- **PLMC:** Fluid Mechanics and Complex Environments
- **ICMPE:** East-Paris Institute of Chemistry and Materials
- **LISA:** Joint University Laboratory of Atmospheric Systems
- **LEESU:** Water, Environment and Urban Systems Laboratory
- **IEES PARIS:** Institute of Ecology and Environmental Sciences of Paris
- **GLY-CRRET:** Cellular Growth, Repairing and Regeneration of Tissues

Several Faculty staff members are also members of other UPEC-affiliated laboratories:

CERTES : Center for Studies and Research in Thermal Environment and Systems

IMRB : Mondor Institute for Biomedical Research

LISSI : Laboratory of Images, Signals and Intelligent Systems



INTERNATIONAL SCOPE

Boasting a dynamic and ambitious international outreach, the Faculty of Science and Technology actively participates in various training and research programs at the international scale.

Students, instructors and administrative personnel all contribute to promoting university exchanges that rely on numerous conventions signed with partner universities located abroad.
Our Faculty’s students are thus granted the possibility to benefit from study abroad stays or laboratory internships in Europe (Erasmus+), North America, Latin America, Asia and Africa.

To streamline the hosting of foreign students, English language instruction opportunities are proposed within the core classes of the Licence (in Biology-Health and Chemistry-Biology) and Master’s curricula (in Risks and the Environment, Integrative Biology / Biomics and Biometrics), all of which are also entirely available via e-learning and incorporated into the international PSRS Erasmus Mundus joint Master’s degree.
With the strong objective of offering its students the best job placement opportunities, the Faculty of Science and Technology has initiated double degree agreements at both the Licence and Master levels with our established partners: Bonn-Rhein-Sieg University (Life Science and Earth Science), Laval University (Computer Science), University of Quebec at Chicoutimi (Life Science and Earth Science), University of Sherbrooke (Chemistry, Physics), National Autonomous University of Mexico (Biology), and Hanoi University (Astrophysics, Chemistry).

Our research teams are also extensively involved on the international stage; they participate at a large number of international symposia and seminars and moreover cooperate alongside their foreign counterparts through the joint implementation of international research projects (joint supervision of doctoral theses, H2020, Hubert Curien partnerships), all of which serve to facilitate high-level scientific exchanges and collaborations.

Contact : international-sciences@u-pec.fr

NEWLY MATRICULATED STUDENTS

> A range of university degrees, from Licence to Masters, tailored for newly matriculated students, continuing education or apprenticeships

> An internationally-oriented curricula

> A professional placement office

> Research laboratories

3 campuses

4000 students

250 faculty members

9 research laboratories

Nearly 80 administrative staff and technicians

UNDERGRADUATE MAJORS OFFERED

- **Mathematics**
  Major in Mathematics *
- **Major in Mathematics ***
  Major in Computer Science
- **Engineering Science**
  Major in Engineering Science * (possibility of enrolling for the 3rd year of the Licence curriculum in an apprenticeship)
- **Physics**
  Major in Mechanics / General Physics
- **Chemistry**
  Major in Chemistry
- **Chemistry, Life Science**
  Major in Chemistry-Biology / International Degree in Chemistry-Biology
- **Life and Earth Science**
  Major in Biology-Environment / Biology-Geology Instruction / Biology-Health * / International Degree in Biology-Health

** With a health access elective program*

DOUBLE LICENCE MAJORS

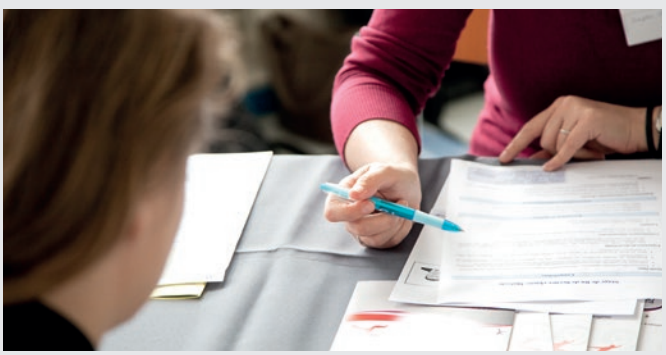
- **Mathematics and Computer Science**
- **Mathematics and Physics**
- **Physics and Chemistry**

Leading to the award of a dual degree, these selective curricula are intended to provide training in both sets of competences.

MAJORS AT THE MASTER'S LEVEL

- **Mathematics and Applications**
  Major in Analysis and Applications / Mathematics of finance and data / Mathematics and computer science / Probability and statistics of new data
- **Computer Science**
  Major in Secure Software Design
- **Optics, Imagery, Vision, Multimedia**
  Major in Artificial Intelligence, data science and cyber-physical systems / Signals and imagery in the field of medicine / Distributed systems and data science technologies
- **Industrial Engineering**
  Major in Atmospheric Pollution Instrumentation / Real estate development supervision* / Maintenance and industrial risk management / Maintenance and nuclear industry risk management*
- **Mechanics**
  Major in the Modeling and Simulation of fluid mechanics and heat transfers / Modeling and Simulation in the field of solid mechanics
- **Material Science and Engineering**
  Major in Advanced Materials and Nanomaterials / Material science for sustainable construction
- **Chemistry**
  Major in Quality Analysis and Assurance* / Chemistry of bioactive molecules / Molecular physical chemistry and applications / Functional polymers
- **Risks and the Environment**
  Major in Indoor and Outdoor Atmospheres / Environmental management for public authorities and companies* / Building resources in the environment / Aquatic systems and water management
- **Science and Technology for Agriculture, Food Production and the Environment**
  Major in Health Risk Analyses related to food production / Integrative biology (Biomics) / Bioengineering for the environment
- **Integrative Energy**
  Major in Sustainable Energy Engineering / Energy mediation
- **2nd-degree MEEF Educational Master's (major taught at both the Faculty of Science and Technology and the Inspe-Créteil Institute)**
  Mathematics (CAPES credential) / Life and Earth Sciences (CAPES credential)

** Degree program only available on a work-study basis*



STUDY ABROAD OPPORTUNITIES

DOUBLE DEGREE PROGRAMS

- **Licence in Chemistry**
  Major in Chemistry: Double degree with the Hanoi University of Science and Technology (Vietnam)
- **Licence in Chemistry and Life Science**
  Major in Chemistry-Biology and International Degree in Chemistry-Biology: Double degree with the University of Quebec at Chicoutimi (Canada)
- **Licence in Life Science and Earth Science**
  Major in Biology-Health and International Degree in Biology-Health: Double degree with the Bonn-Rhein-Sieg University (Germany) / Biology-Health and Biology-Environment: Double degree with the University of Quebec at Chicoutimi (Canada)
- **Master's in Computer Science**
  Major in Secure Software Design: Double Master's with Laval University (Canada)
- **Master's in Material Science and Engineering**
  Major in Advanced Materials and Nanomaterials: Double Master's with the University of Sherbrooke (Canada)
- **Master's in Chemistry**
  All majors available: Double Master's degrees with the University of Sherbrooke (Canada)
- **Master's in Science and Technology for Agriculture, Food Production and the Environment**
  Major in Integrative Biology (Biomics): Double Master's with the National Autonomous University of Mexico

INSTRUCTION OFFERED IN ENGLISH

- **Licence in Chemistry, Life Science / Life and Earth Sciences**
  Majors in Chemistry-Biology / Biology-Health: international groups
- **Master's in Optics, Imagery, Vision, Multimedia**
  International Master's in Biometrics and Intelligent Vision / Erasmus Mundus Master's in Photonics for Security Reliability and Safety
- **SPACE Master - Observation of the Earth, Astrophysics, Engineering of satellites**
  Master's program jointly accredited with the Hanoi University of Science and Technology (Vietnam)
- **Master's in Risks and the Environment – Major: SGE**
  1-year Master's program, with the first semester taught in both English and French
- **Master's in Science and Technology for Agriculture, Food Production and the Environment**
  Major in Integrative Biology (Biomics): Second semester of the 1-year Master's program and first semester of the 2-year Master's program taught in both English and French (available as of September 2023)

PROFESSIONAL TRAINING OPPORTUNITIES

WORK-STUDY PROGRAMS

Apprenticeships

Students enrolled in the Faculty of Science and Technology who qualify under the age restrictions may opt to alternate between their university training periods and in-company work experience by means of apprenticeship contracts. The notion of apprenticeship is based on a partnership set up between the apprentice, the host company and the training center. In addition to earning a salary and a degree identical to that delivered to full-time students, this avenue offers participants valuable exposure to the business world in the aim of identifying the right career opportunity. Eighty percent of all participating students receive a job offer upon completion of their apprenticeship program.

The professional training contract

This contract is intended for newly matriculated students younger than 26 as a complement to their initial training, as well as for job seekers 26 or older and beneficiaries of certain social services (job market reentry).

Several work-study training programs are proposed, at both the Licence and Master levels.

3-YEAR LICENCE DEGREE

- Chemistry, Life Science, with a major in Chemistry-Biology
- Engineering Science, with a major in Electronics, Maintenance or Mechanical Engineering

PROFESSIONAL LICENCE CREDENTIAL

- Chemistry and Physics of Materials - Treatment of metals and alloys

1-YEAR MASTER'S DEGREE

- Computer Science, with a major in Systems Design and Cybersecurity

1-YEAR AND 2-YEAR MASTER'S DEGREES

- Computer Science, with a major in Secure Software Design
- Optics, Imagery, Vision, Multimedia, with a major in Distributed Systems and Data Science Technologies
- Industrial Engineering, with a major in Maintenance and management of industrial risks / Maintenance and management of industrial - nuclear risks / Real estate development supervision
- Chemistry, with a major in Quality Analysis and Assurance

2-YEAR MASTER'S DEGREE

- Optics, Imagery, Vision, Multimedia, with a major in Signals and Imagery in Medicine
- Material Science and Engineering, with a major in Advanced Materials and Nanomaterials
- Chemistry, with a major in Functional Polymers / Chemistry of Bioactive Molecules
- Risks and the Environment, with a major in Indoor and Outdoor Atmospheres (AIR) / Environmental management for public authorities and companies / Aquatic systems and water management
- Science and Technology for Agriculture, Food Production and the Environment, with a major in Health Risk Analysis related to Food Production / Biological Engineering of the Environment
- Energy, with a major in Sustainable Energy Engineering and Energy Mediation

Contact : alternance-st@u-pec.fr

RELATIONS WITH THE BUSINESS WORLD

Throughout their curriculum, students enrolled in the Faculty of Science and Technology are accompanied by the professional placement office in their search for an internship or a position after graduation, or in writing up their CV.

Committed to professionalizing the academic programs and identifying job opportunities for students, the Faculty of Science and Technology has, for quite some time, fully adopted a series of approaches favoring students' professional pathways and the Portfolio of Experiences and Competences. These approaches enable each student to weigh the various career choices available, in deciding on course sequences and an appropriate major. A professional emphasis is foremost in structuring the post-graduation internship, mandatory at both the Licence and Master levels, as well as in developing work-study and continuing education programs, notably for those already active in the field.

Maintaining strong relations with the business world is another key concern, in relying on establishing and nurturing robust synergies among the Faculty's academic departments and research laboratories.

The involvement of non-academic professionals is critical to the learning process, especially at the Master's degree level, and the Faculty promotes the widespread introduction of professional advisory services, which have garnered support from our corporate partners.

These actions are coordinated by the placement office, specifically via a calendar of events (e.g. conferences, company forums).

Contact: baip-sciences@u-pec.fr

ENSURING A SUCCESSFUL SCIENCE DEGREE PROGRAM

In the aim of enhancing student success rates, the Faculty of Science and Technology offers various means.

Instruction accompaniment

- Robust oversight: Discussion groups and selected smaller size classes, state-of-the-art teaching available in each discussion group to better guide and advise
- Tutoring resources on hand all semester long and during exam review weeks by 3rd-year Licence students or above
- A mixed-grading system combining assignments and a final exam or based solely on submitted assignments
- Preparation for the Veterinarian School competitive exam B
- Professional and cross-disciplinary instruction: English courses, culture of the profession, computer tools
- A personalized assistance and accompaniment unit: counselors on hand to address personal needs in strict confidentiality, problem identification (selected major, learning methods, health, finances, isolation, etc.) and solution proposals

Pedagogical innovation

- Use of interactive classroom clickers during lectures and discussion sections (real-time answers to multiple choice questions), thus helping create a teaching dynamic, plus focus and quick assessment of knowledge acquired
- Use of telepresence robots enabling mobile videoconferencing: online classes and multi-site instruction
- Video-recorded courses to facilitate knowledge acquisition, e-learning platform (Wims)

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Science and Technology Department Communication – June 2022
Graphic design: Johana Amourdedieu

University of Paris-East - Créteil - Val de Marne
Faculty of Science and Technology
Campus Centre – Bâtiment P
61, avenue du Général de Gaulle 94010 Créteil cedex

http://sciences-tech.u-pec.fr
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