CY TECH

2025/26 Academic Year

English-taught Course Offer

Impacting tomorrow today

https://cytech.cyu.fr

CY Cergy Paris University

Since the first of January, 2020, Cergy-Pontoise University and EISTI have merged under a new name: CY Cergy Paris Université. It is composed of 25,000 students. ESSEC is associated with CY as a partner institution.The academic course offerings are made up of an undergraduate university (CY SUP) and of five undergraduate and graduate schools, four within the university, with the fifth being ESSEC.**In addition to ESSEC, the other graduate schoolsled by CY university are :**

• CY TECH
Specialized in Computer Science
Applied Mathematics
Civil Engineering
Biotechnology & Chemistry
Economics and Management

• CY LAW AND POLITICAL SCIENCES
Represented by Sciences Po St-Germain-en-Laye campus

• CY EDUCATION
Represented by INSPE, EPSS and ILEPS institutions

• CY ARTS AND HUMANITIES
Represented by the National Higher School of Arts Paris-Cergy (ENSAPC)
The National Higher School of Architecture of Versailles (ENSAV),
The National Higher School of Landscape Design (ENSP)
The National Heritage Institute (INP)

CY Tech

Located in Greater Paris and in Pau, CY Tech is primarily an Engineering Graduate School. It has earned the "Grande Ecole" status, the highest recognition stated by the French Ministry of Higher Education & Research. CY Tech is also a member of the "Conférence des Grandes Ecoles" (CGE), a French association that gathers elite higher education institutions, which meet strict criteria regarding the recruitment process, educational approach, international and corporate network.

Accessible after the completion of a secondary education diploma or through a dedicated post-secondary preparatory class, it delivers a Master's degree in these four fields:
• Applied Mathematics;
• Computer Science;
• Civil Engineering;
• Biotechnology & Chemistry.

Two university departments have been incorporated into CY Tech: the Institute of Sciences & Techniques (CY Tech ST) and the Institute of Economics & Management (CY Tech EG), which broadens our overall course delivery in these specific areas.

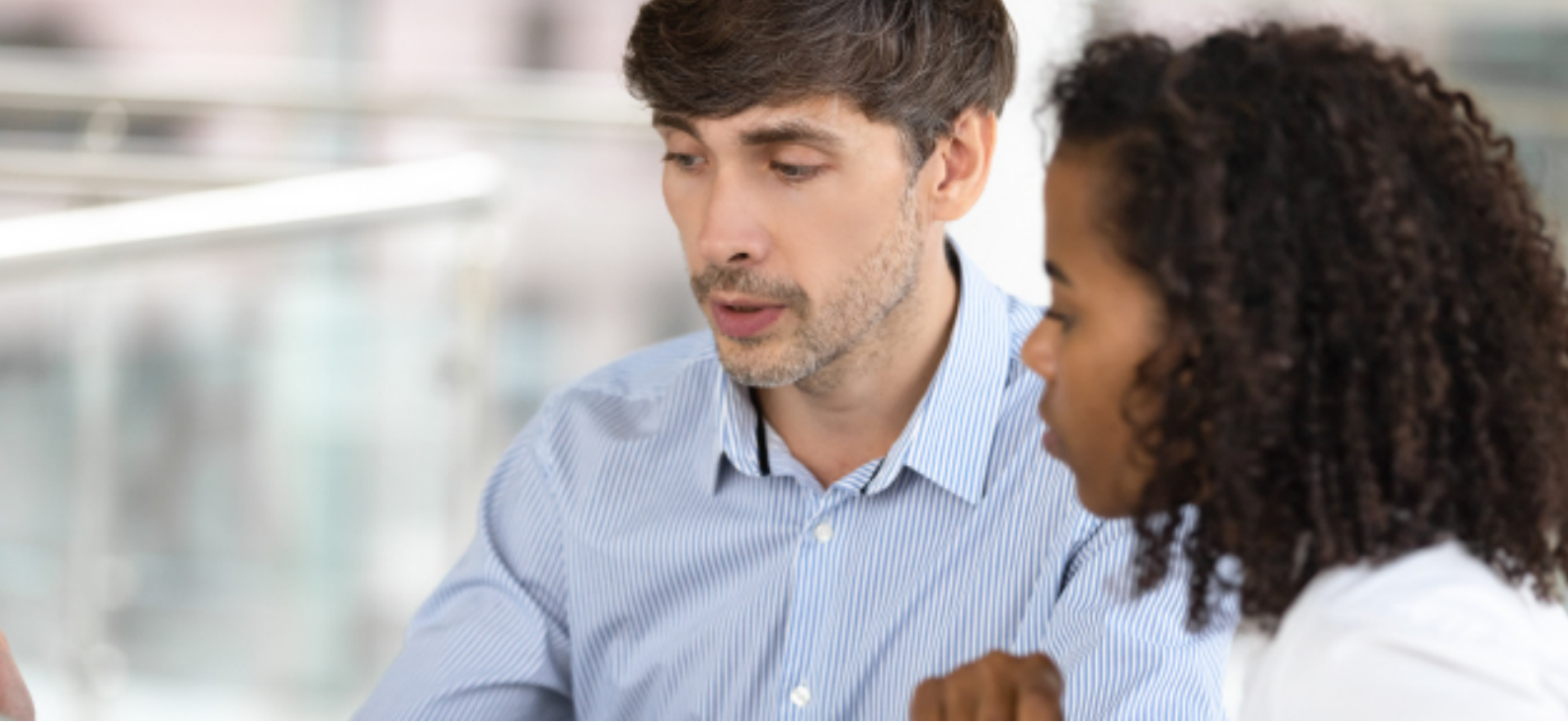
CY TECH COURSE OFFER IS STRUCTURED IN THE FOLLOWING MANNER:
• A five-year Grande Ecole Engineering program;
• Post-secondary preparatory classes leading to Grande Ecole program enrollment;
• Undergraduate & Graduate Programs;
• Continuous training programs: Specialized Postgraduate Master's;
• International Master's with campuses located out of France;
• PHD programs.

Impacting tomorrow today

Our mission
Our values

The mission of CY Tech is to meet the rising expectations of both students and industry. Through innovative programs and faculty exchanges, we seek to provide our students with an ever-increasingly attractive educational experience. Students can choose undergraduate and graduate programs in both Engineering and Management disciplines.
Students also acquire valuable knowledge and global managerial skills through internships and study abroad experiences with universities worldwide. Since CY Tech's inception, the institution has gradually adapted itself to the evolving economy that offers an extensive and diversified curriculum that meets a contemporary vision of today's world.

Its objectives are:
challenge-driven to prepare students and staff as global citizens and lifelong learners who care and act for the future of the planet and humanity
committed to the principles of openness and inclusion, by building open resources and collaborative platforms, endorsing open science agendas, and sponsoring the access, mobility and inclusivity mechanisms that liberate our intellectual and social potential.



CY Tech International Involvement

CY Tech's international involvement is indisputable and includes work experience abroad, academic exchanges as well as dual degree options.

Our institution renewed an Erasmus Charter for Higher Education.
This recognition demonstrates our expertise in mobility of students & staff and in strong cooperation for innovation and good practices under the Erasmus + policy.
CY Cergy Paris University is a member of Campus France, the official agency for the promotion of French Higher Education worldwide. CY Tech has also aligned with different European and international organizations and associations (EUTOPIA, EAIE, NAFSA, n+i Network, AIEA, ...) which aim to promote progress of international education.
On another note, CY Tech has proven expertise in submitting and managing European and international Calls for Projects (International Credit Mobilities including European and non-European partner institutions, projects on Capacity Building).

CY owns a Language Centre and is also an ETS TOEIC Authorized Test Centre.
Our university was awarded the **"Bienvenue en France"** label, which distinguishes French Higher Education institutions that have developed reception facilities dedicated to international students. **CY is establishing solid links with South-Asian universities** which will contribute to the creation of a Franco-Chinese Institute to further internationalize its educational opportunities. One of the most remarkable achievements at European level is the recent development of an alliance of six like-minded universities, located in Belgium, Slovenia, Spain, Sweden, the United Kingdom and France, entitled **EUTOPIA**.
The mission of EUTOPIA is to build in the long term a unique and daring alliance of transformative and engaged institutions. The alliance has developed strong ties within the regional communities, the institutional structures and the local companies. EUTOPIA students, researchers and staff work together to build a new academic model, reflecting an open and a united Europe, respectful of the citizens and the environment.

CY Tech diplomas require an official language certification in English as a Foreign Language as part of its national diploma recognition criteria. CY Tech will have signed 250 university partnerships worldwide within the two coming years, including more than 50 international dual degree options. A substantial number of cooperation programs allow the institution to enhance incoming mobility through its undergraduate, graduate and post-graduate English-taught course delivery. In keeping with CY Tech's global vision, our institution plans to open an offshore campus within the near future.

What makes CY Tech Different?

ONE AMBITIOUS VISION

CY, defined as a university of diversity, society-oriented and of international standing, seeks to educate new generations in the complex challenges of a globalized society in tune with the sustainable development objectives, academic excellence and quality student experience.

A HIGH-PROFILE RANKING STATUS

National and international rankings, recognized by many specialized media and websites, show once again that CY course offerings are considered as one of the best in the fields of **Engineering, Management, Mathematics & Finance, internationalization and professional integration.**

CUTTING-EDGE RESEARCH & TECHNOLOGY TRANSFER ACTIVITIES

Research and technology transfer are at the heart of the dynamics of CY Tech, whose missions contribute to the appropriation of scientific knowledge.

CY Tech asserts its vision and pursues an active policy in technology transfer innovation of its research activities, conducted by recognized full-time researchers within its fourteen laboratories and five Open Labs in modeling and experimental sciences.

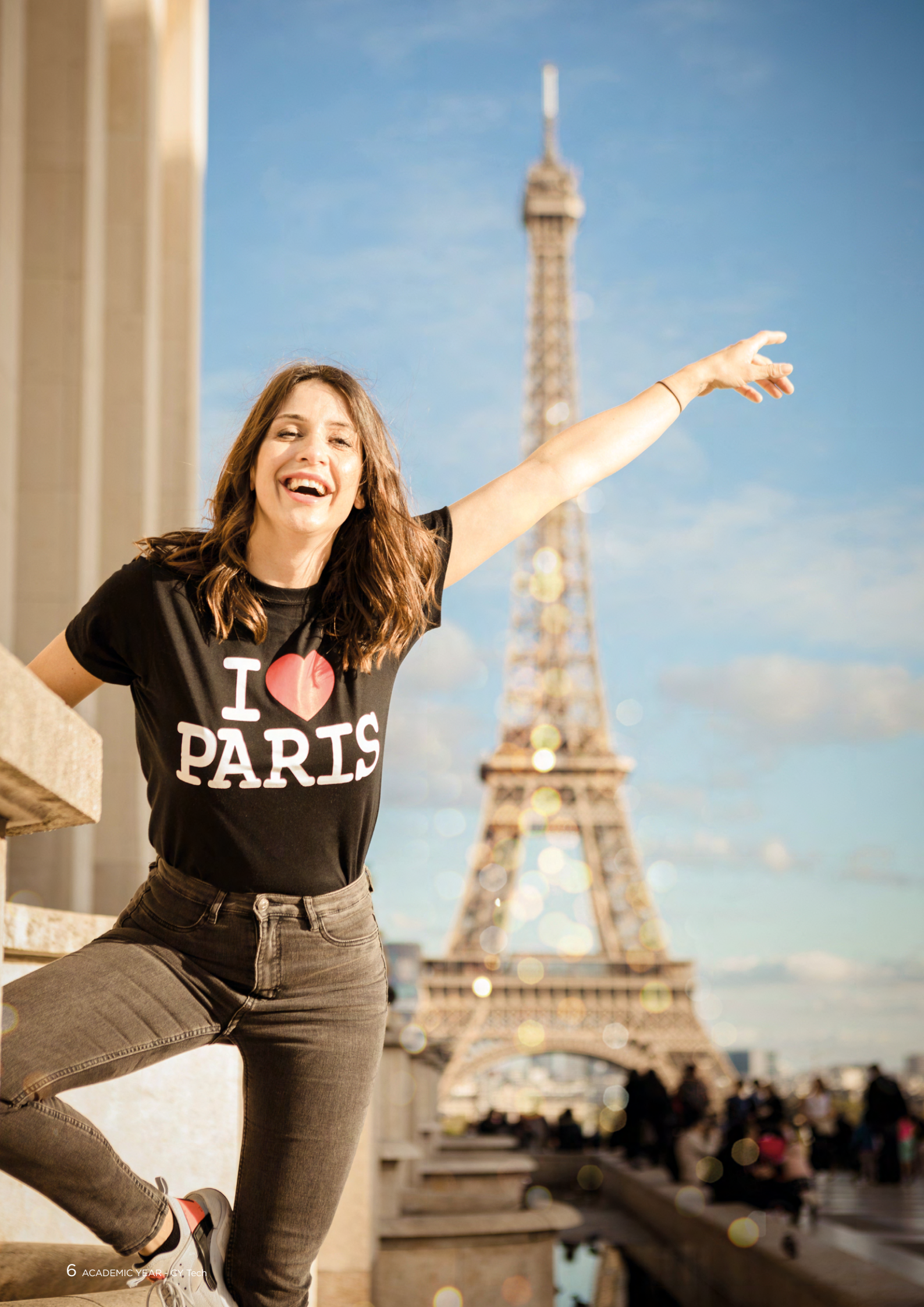
A WIDE RANGE OF FACILITIES OFFERED AT THE CAMPUS

- Four libraries with over 2 million publi cations
- Four university residences and private housing facilities
- Student sports facilities with over 30 individual & team activities
- Four student restaurants, four cafeterias
- 47 student associations
- A full package of cultural activities including a “cultural Pass voucher”, a special pass which offers discounts to theaters & cinemas bookings and to other cultural events in Greater Paris

“BIENVENUE EN FRANCE” LABEL

This national recognition, awarded by our university, enhances our expertise dedicated to international students, mainly in the following areas:

- Quality and accessibility of information & reception facilities;
- Tutorial support services;
- Housing facilities and campus life development;
- Post-graduate career development and alumni services.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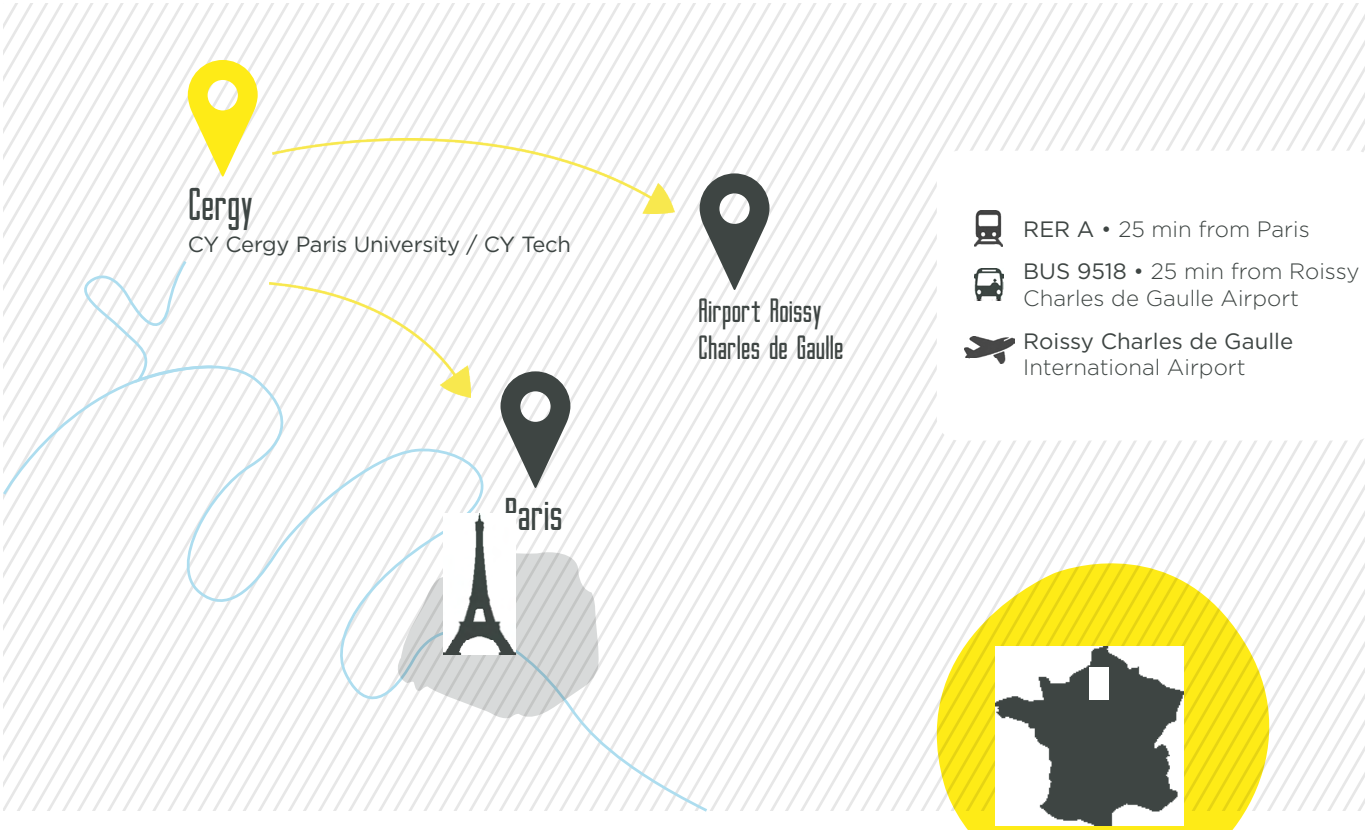
PARIS

Have you ever studied in Europe?

CY Tech provides you with an exceptional opportunity to combine both advanced academic learning and a memorable French cultural experience.



CY Tech Campus, an exceptional geographical location in Greater Paris

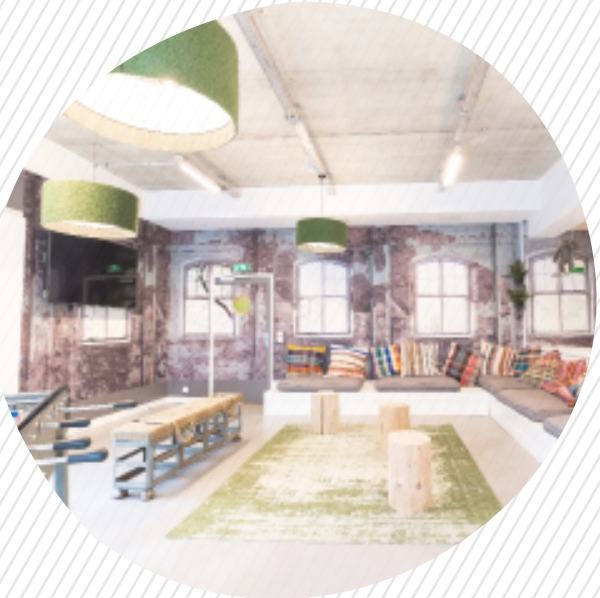
The Paris Region has much to offer to international students, such as history, art, culture on top of its academic & scientific excellence. It is a unique place to learn, discover, study, engage and exchange, a place where dialogue, fraternity, freedom and creativity will always prevail.
Paris has been listed in the QS best student cities ranking for many years. At only 25 minutes from the world famous Les Champs Elysées, or La Défense (one of the major futuristic skyscraper- packed, business districts in Europe) stands the city of Cergy-Pontoise.

The historic heart of Cergy-Pontoise thrives on a prestigious past which has often found itself at the crossroads of the history of France itself, as when the Royal Court resided there. Its fame was extended through the long residency of Camille PISSARRO, who painted the varied landscapes of the town and its nearby countryside in numerous works, which are now to be found in the greatest museums in the world. Blessed with rich heritage, Cergy-Pontoise became on March 30th, 2006, a member of the national network of towns and lands of Art and History.

This label, delivered by the Ministry of Culture and Communication, embodies a policy aiming to promote heritage and architecture. Today, Cergy is known as a vibrant student hub.

ACCOMMODATION

You will be able to stay at the “Résidence Jean Baptiste La Salle” or at the «KLEY Cergy résidence», both located less than a 5-minute walk from CY Tech. Both residences provide internet access, lounge with cable TV, fitness area, secure entrance, launderette, bike parking. You will be accommodated in a fully furnished room. Town center, restaurants and shops are within easy walking distance from the residences. There are national festivals and music events at this time of the year. You can also decide to book accommodation in Paris on your own initiative.



Summary

Engineering programs taught in English at CY Tech

CY TECH

University Degree in data mining and optimization architecture (ADEO)

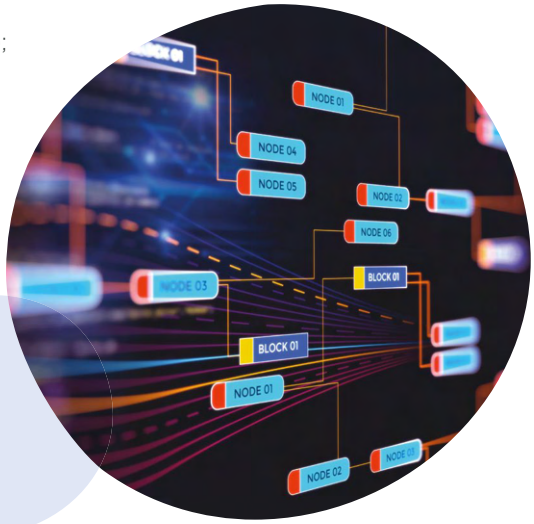
A 1-year Master's degree

Specifics of the master's program

This Master's Program has grown from the specializations in Decision Support, Business Intelligence and Business Analytics. CY TECH has been ranked amongst the top institutions in France by independent organizations.

Distinctive points of this course:

- Triple skill-set with architecture (BI), data mining and business resource optimization;
- This Master's program will be run by a multidisciplinary group: statistics, data mining, operational research, architecture;
- Implementation of interdisciplinary projects;
- Methods and techniques taught in this program come from cutting-edge domains in industry and research, such as opinion mining, social networks and big data, optimization, resource allocation and BI Systems architecture;
- This Master's program is closely backed up by research: several students are completing their final study project on themes from the L@RIS laboratory, followed and supported by members of the laboratory (PhD students and research professors);
- Being familiar with the tools used in industry dedicated to data mining, operational research and Business Intelligence gives the students an advantage in their employability after graduation;
- Industrial partnerships with companies strongly involved in Big Data are an integral part of this program:
  - SAS via the academic program and a 'chaired'entreprise' (business chair), allowing our students access to Business Intelligence modules such as Enterprise Miner (data mining) and SAS-OR (in operational research);
  - SAP via our University Alliance Program, enabling our students' access to the latest versions of BI modules from SAP, such as SAP-BW and SAP-Business Objects.



Course structure

The Master's program includes two semesters:

- A series of modules at Master II level validating 60 ECTS. The academic year starts in September;
- An internship including the presentation of a Master Thesis.

Teaching methods

All lectures will be taught in English with the exception of the FLE (French as a Foreign Language) course, which aims to teach students to understand and express themselves in French as well as to get to know the French culture.
Students will also be familiarized with the 3 pillars of the Big Data Master's program:

- Modeling, operational research and decision support;
- Data analytics and data mining;
- Business Intelligence.

Internship

Internships will be supervised by a university professor. A minimum of 3 meetings will take place between the trainee, the school representative and the person in charge of the company/research laboratory. Each meeting will result in a professional presentation of the trainee, which will lead to an assessment.
In addition to these meetings, the student will be required to write an internship report which will contain the following:

- A presentation of the company/laboratory;
- A presentation of the activities and goals;
- An analysis and synthesis of the work undertaken;
- A personal analysis of the internship: what worked and what did not work.

This internship will last a minimum of 22 weeks.

Career objectives

The growing and larger demand in these domains offers graduates from this Master's course numerous and diverse job opportunities –in areas linked to decision support- such as Data Scientists, Consulting Engineers, Research and Development Experts, Tool Design Engineers, BI/Business Analytics Solutions Providers, or simply Users of Business Intelligence tools. Graduates who wish to specialize in the area of research can start a career in both public and private research centers, find a position as researchers in Higher Education or prepare for additional education at the doctoral level.

Course semester outline

This Master's program is based on the three pillars, mentioned above, except at a higher level of expertise. To train experts in our field, we provide students with professional skills in modeling, design and implementation of IT architecture, data mining and optimization.

Semester 1

Skills	Lectures	Hours	ECTS
Computer Technologies	Advanced Data Base 2 (PLSQL, transaction, Distributed Database)	24	8
	NoSQL	20	
	Machine Learning with Scala	20	
Data Exploration	Data Mining Approach (Time series, logistic regression, 2 Bagging, Boosting, Random forest, Neural network)	1	7
	Semantic Web and Ontology 2	1	
	Social Network Analysis 1	6	
Business Intelligence	Advanced BI & Data Visualization	24	4
Operations Research	Forecasting Models 3	3	5
	SAS Analysis 1	2	
Foreign Languages and HR	FFL French as a Foreign Language	26	3
	PPP Personalized Professional Project 1	5	
	Agile Methodology	7	
Autonomous Work	Master Thesis preparation	12 h per week	3
Total M2 Semester 1		278	30

Semester 2

Skills	Lectures	Hours	ECTS
Data Exploration	Elastic Search Kibana 2	1	5
	Text Mining and Natural Language	18	
	Deep Learning (Convolutional Neural Network, 1 Tensor flow, Keras, ...)	2	
Operations Research	Supply Chain	18	5
	Constraint Programming 1	8	
	Multi-Objective Optimization	18	
	Game Theory 1	0	
Software and Architecture	Big Data and Advanced Analytics	42	4
Foreign languages	FFL French as Foreign language	21	1
Total courses in M2		157	12
Autonomous Work	Master Thesis and Final Project Defence	12 h per week	6
	Internship (22 weeks minimum)		9
Total M2 Semester 2			30

CY TECH

MBA program in Cybersecurity and Smart systems

A 1-year MBA program

Course program and objectives

Program information: an MBA program in Cybersecurity and Smart systems

CY Tech is accredited by “La Conférence des Grandes Ecoles”, a French association that gathers elite higher education
institutions. The objective of this program is to train future IT managers in the new multidisciplinary engineering professions of IoT (Internet of Things) and communication systems so that after graduation they will be able to:
• Assimilate and master IoT technology;
• Understand the challenges of Smart Systems in France and in the world;
• Incorporate the acquired knowledge and experience of these challenges in an IT managerial practice, regardless of the environment in which they will be working.
The MBA in Cybersecurity and Smart systems aims to train future IT managers to evaluate, manage and optimize the IT security of an organization as a whole (privacy, reliability, safety, and legal aspects) at the technical (networks, software, data, systems, etc.) as well as the legal and organizational levels.

Career objectives

- Design of new intrinsically secure systems;
- Protect systems such as the Web, mobile and critical infrastructures;
- Analyze and detect malwares and other cyber-attacks;
- Practice cybersecurity skills in real-life scenarios;
- Information security risk management framework and methodologies;
- Identify suspicious cyber behavior through data mining and anomaly detection;
- Conduct a court-admissable digital forensics investigation.

The skills developed in this course meet the current needs of software and hardware architects for the entire transmission and data processing chain dedicated to connected and intelligent objects. This training leads to all professions related to networks, security, mobility and Internet of Things, whether at the engineering, architecture, consulting or auditing level: Security Engineer, Architect and Developer of New Technology Applications, Engineer, Research and Development, Project Manager, Auditor, Controller, Assessor, Trainer, Instructor, Expert in Information Systems Security, Security Developer, Security Architect, Expert in Breach Tests, Analyst, Consultant, Crisis Management Specialist, Information Systems Security Manager

Semester 1

	ECTS
UE1: Soft skills	**2**
Team Building	1
Meeting Facilitation	1
UE2: Smart Connectivity	**7**
Networks and Protocols	4
Communication Technologies for IoT & Data Analysis	3
UE3: Smart Data & Processing	**4**
Distributed Artificial Intelligence	4
Hardware Conception of Processing Modules for the IoT	4
UE 4: Offensive Security & Digital investigation	**13**
Smart Card Security	3
PenTest(Recognition & Scanning, RedTeam Intrusion)	4
Forensic (Digital investigation)	3
Malware Analysis	3
UE 5 : Cybersecurity Management	**9**
Crisis Management & Incident Response	3
Cybersecurity Management (Governance & the ISO/IEC 2700x family)	3
BlockChain & IAM	3
Total Semester 1	**35**

Semester 2

UE 6 : Training period	**25**
Training period	25
Total Semester 2	25
Total Academic Year	**60**

CY TECH

MBA program in ERP Management

A 1-year MBA program

Course program and objectives

Program information: an MBA program in ERP Management

CY Tech is accredited by “La Conférence des Grandes Ecoles”, a French association that gathers elite higher education institutions.
Today, every company seeks to establish its running activities in compliance with a management tool that will optimize its commercial, financial or production performances.
An ERP (Enterprise Resource Planning) aims to gather together the interconnection and the integration of all the company’s functions in a coherent computing system. In order to deploy an ERP, the company must rely on specialists who understand the cross-cutting needs of the organization. The MBA program in ERP Management, taught at CY Tech, intends to train and prepare high-level executives to the deployment of ERP solutions. CY Tech is the only Higher Education institution in France which offers its students to prepare a “Mastère Spécialisé” for the SAP professional certification.

A strategique long-term issue and a major challenge

The objective of CY Tech The MBA program in ERP Management is twofold:
• to bring knowledge of the different businesses of the company and a perfect control of ERPs;
• to develop solid skills in the field of project management.
This program is meant for high-level executives who understand the cross-cutting needs of a company and are capable of managing and coordinating the actors of a complex project. It highlights both the experience of a substantial number of professionals, who are involved with our associate partner companies and the expertise led on many aspects of the business industry.

Career objectives

This course offers a wide range of opportunities within international-oriented departments in positions such as ERP Functional Consultant, ERP Project Manager, Head of System Applications, Head of “Key Users” Business Lines, Manager/Functional Services Director.

Semester 1

Course Unit 1: Introduction to ERP	ECTS
Introduction to SAP (INTELLIGENCE)	1
IIntroduction to Microsoft Dynamics 365	1
Introduction to AXELOR	2
Course Unit 2: Business Fundamentals and Performance Management System	
Business Management (FI)	4
Performance Management System (CO)	4
Course Unit 3: Business functions: Purchase, Warehouse, Sales	
Purchase, Warehouse, Sales (PUR, MM, EWM, SD)	4
Course Unit 4: Advanced Business Functions	
Planification, production, maintenance, project management (PP, PM, PS)	3
Course Unit 5: ERP Systems/ ERP Environment	
ERP Systems/Around an ERP	2
Course Unit 6: Complementary classes/Opening modules	
Project Management, Change Management	3
Soft Skills	3
French Language	0
Course Unit 7: Management Information Systems	
Management Information Systems	2
Course Unit 8: ERP Practical Approach	
TS4 10 Practical Approach Level 1	3
TS4 10 Practical Approach Level 2	3
Total ECTS	35

Semester 2

Internship Period	
Internship	10
Internship Report and Defence	
Internship Report and Defence	15
Total ECTS	25
Total ECTS Academic Year	60

CY TECH

International Project Semester

A one-semester Exchange Project

Course program and objectives

Program information: a 1 Semester Project
The 30 ECTS program our international students will attend is accredited by "La Conférence des Grandes Ecoles", which is a French association that is composed of elite higher education institutions. This accrediting body allows students to spend one academic semester at CY Tech.
This English-taught program includes the following criteria:
• 5 teaching modules;
• 134 classroom hours;
• 1 Technical Project in one of the following 4 fields: Mathematics, Computer Science, Civil Engineering or Bio technology & Chemistry;
• 180 hours of personal work dedicated to the technical project.
The objective of CY Tech International Semester Program is twofold:
1. It provides students with an exceptional opportunity to combine advanced academic learning in engineering;
2. It enhances new communication skills and a memorable French cultural experience.
Further, "Course Unit 1" classes will end with a final exam. The Study Project requires initiatives and commitment from the part of the students in addition to an opening to the outside world. At the end of this class, the student-engineer will be able:

1. To mobilize the various components and tools of a specific scientific field:
• The student-engineer will apply the studied methods and tools of the assignment in order to undertake his/her study project;
• The student-engineer will acquire complementary skills, which are different from those linked to his/her specialty, according to his/her personal and professional project.

2. To understand and consider the stakes/challenges of a company-oriented project in an international context:
• The student-engineer will propose innovative solutions and approaches based on the use of information and experience gained from their bibliographic study and the completion of the project;
• The student-engineer will discover the requirements, working methods and organization of a company;
• The student-engineer will investigate and launch innovative ideas;
• The student-engineer will plan and organize a project with the help of project management tools and collaborative sharing tools

3. To develop human and relational intercultural qualities:
• The student-engineer will explain in written form and orally the work carried-out and the results obtained, using different media including remote management tools;
• The student-engineer will work on a team, cooperate with others in order to undertake and achieve common tasks;
• The student-engineer will adapt quickly to his/her professional environment;
• The student-engineer will implement organizational methods and present the results obtained in compliance with ethical rules;
• The student-engineer will demonstrate a commitment and autonomy in order to obtain concrete results within the framework of projects, and take responsibility for the course of the projects.

Final evaluations for "Course Unit 2", (ie.the Study Project), will consist of the following: Students will be held responsible for a written report and an oral presentation which will take place in front of a jury made up of academic faculty members.

1 semester course offered

either semester 1 or semester 2

	ECTS
Course Unit I : French Identity & Language and Cross-Cultural Communication	**15**
1. French as a Foreign Language	3
2. Communication Skills	3
3. Corporate & Institutional Communication	3
4. Cross-cultural Communication Management	3
5. French Identity	3
Course Unit II : Study Project	**15**
Project	15
Total ECTS (one semester)	**30**

Some examples of scientific-oriented projects per field of study:

Applied Mathematics

- Text analysis to identify similar patents: Development of a measure of proximity in ideas using unsupervised machine learning. The idea is to explore knowledge relationships in patents by: first, deriving vector space representations of patent description text using Document Vectors (Doc2Vec); second, using cosine similarity (and other similar techniques) to measure their proximity in ideas space

Computer Engineering

- Text analysis to identify similar patents: Development of a measure of proximity in ideas using unsupervised machine learning. The idea is to explore knowledge relationships in patents by: first, deriving vector space representations of patent description text using Document Vectors (Doc2Vec); second, using cosine similarity (and other similar techniques) to measure their proximity in ideas space
- Multi-agent simulation of the cybersecurity of communicating vehicles (VANETs): Simulation of Cyber attacks and Counter measures in a VANET system
- E-Health: AI and predictive analysis of cardiovascular diseases
- Identity management based on Blockchain
- Cybersecurity: Finger-vein Biometric identification
- Smart Engineering School & IoT: implementation of indoor geolocation based on Footprinting algorithms, Beacon and NFC technologies

Biotechnology & Chemistry

- Development of a hepatic lectin affinity test for the development of a liver-targeted therapy
- Electrochemical assisted surface functionalization for electrocatalysis application
- Redox Polymers for Organic batteries
- Study of the functionalization of surfaces for the detection of glyphosate by anchoring transition of liquid crystals
- Poly(HIPE) decorated with metallic nanostructure for sensing and energy driven applications
- Manicure 2.0: design and conception of an electrochromic nail
- Bifunctional organocatalysis: the best of both worlds
- Development of biomimetic / physiological techniques to study the proadhesive and antibacterial properties of some surface coatings
- Sebbin Industrial Project (optimization of silicone prostheses)
- Tourvielle Industrial Project (extracting interesting natural products from oyster shells)
- Biofunctionalization of chitosan by grafting matrix proteins / peptides
- Setting up a genome editing platform of bacteriophages to optimize their antibiofilm properties

Civil Engineering

- Modeling, size calculation of a 3-floor and 40-apartment building in Bagneux
- Preparing and modeling a construction site for 32 apartments in Roissy
- Size calculation of a crossing structure
- Calculation of the basic components of metal buildings
- Multidirectional reinforcement of cement materials with 3D printing
- Lowering the impact of construction building on people's health: choices of materials and selection criteria
- Characterization, size calculation and construction of a building in reinforced concrete (1:10 scale)
- Modeling, size calculation of a residential building in Roissy
- Preparing and modeling a construction site for 40 apartments in Bagneux
- BIM model - an 8-floor tower with basement
- Transforming a B road into a dual carriageway
- Identifying and deciding on actions to be carried out on buildings structures
- Size calculation of a crossing structure
- Study of the basic components of a building in reinforced concrete
- Study of the assembly of metal components

CY TECH

Bachelor Data Science by Design

A 1-year Master's degree

Course program and objectives

Data is the digital gold of the 21st century!

Our digital lives produce data; our digital lives depend on data. Their collection, storage, sharing, structuring, analysis, exploitation and representation are the conditions for a better life, a better society, and a better planet. The task is a difficult one, because it is necessary to master both highly specialized mathematical and computer skills, while at the same time calling on the knowledge, methods, and tools of design in order to put data at the service of each and every one of us.
It is the ambition of the International Bachelor's degree «Data Science by Design» to provide you with this double mastery.

From Data to Meaning

Data is everywhere : Data Science applies to many fields such as social networks, health, education, mobility, smart cities, urban planning, manufacturing, food & agriculture, finance or physics. Problems and opportunities are everywhere, and they need to be both identified and resolved.

Data is complex : To become a Data Scientist and to be able to unleash the power of data implies being deeply invested in important fields such as Artificial Intelligence, Machine Learning, Deep Learning, Statistics, and Programming. Data Scientists must also be keeping up with the latest in the field of Computer Science, keeping abreast with advances in newer fields.

Career objectives

Every day, we generate and manipulate data, and our understanding of the world becomes all the more precise, thanks to Data Science. A Data Scientist works on the exploitation of this data in order to answer problems in fields as varied as medicine, agriculture, social networks or
security.
He/she must collect this data, clean it and analyse it. They must structure, manipulate, interpret and stage it to produce the best possible decisions and services for the problem at hand. To do this, we train you to master many disciplines: mathematics, computer science, statistics, databases and data management, programming, Artificial Intelligence, machine learning and deep learning. But structuring, analysing and making data talk is not enough if it is not put at the service of society in a world in transition. How can we put this scientific and technical knowledge at the service of successful life experiences for each and every one of us? Our Bachelor's degree is unique in that it gives you the skills to do this through Design. Knowledge of general culture, social sciences, data ethics, economics, as well as high level critical thinking and problem solving skills are required to face the complexity of our changing world.

Course outline

Academic year 1

Course title	ECTS	Sem.
Real Analysis 1	5	1
Basic Tools in Mathematics	5	1
Probability 1	3	1
Electricity	2	1
Algorithms and Programming 1	5	1
Microeconomics	3	1
Principles of Accounting	2	1
Project	2	1
Design Contemporary Issues Module 1	2	1
Enlightenment sessions	1	1
Photoshop/Illustrator	1	1
Real Analysis 2	5	2
Linear Algebra	5	2
Probability 2	3	2
Algorithms and Programming 2	2	2
Introduction to Modelling	5	2
Macroeconomics	3	2
Principles of Finance	2	2
Project	3	2
Design Contemporary Issues Module 2	2	2
Enlightenment sessions		2

Academic year 2

Course title	ECTS	Sem.
Multivariable Calculus	6	1
Bilinear Algebra	4	1
Applied Mathematics for Data Science	3	1
Object-oriented and Java Programming	5	1
Relational Databases, SQL Databases	5	1
Project	2	1
Design Contemporary Issues Module 1	2	1
Enlightenment sessions		1
Unity software	1	1
Project Management	2	1
Series	5	2
Data Analysis	4	2
Statistics	3	2
Dynamic Web Programming	3	2
Computer Networks	3	2
Operating Systems	2	2
Advanced Modelling	5	2
Project	3	2
Design Contemporary Issues Module 2	2	2
Enlightenment sessions		2

Academic year 3

Course title	ECTS	Sem.
Mobile Programming	3	1
Intermediate Statistics	2	1
Introduction to Machine Learning and Artificial Intelligence	5	1
Data and Critical Thinking	3	1
Introduction to Information Theory	3	1
Social Network Analysis	2	1
Data Wrangling and Preprocessing	3	1
Text Mining and Natural Language Processing	2	1
Dimensionality Reduction and Clustering Algorithms	2	1
Project	2	1
Design Contemporary Issues Module 1	2	1
Enlightenment sessions		1
Adobe Premier	1	1
Semester abroad	30	2

Academic year 4

Course title	ECTS	Sem.
Language Theory	2	1
NoSQL Databases	3	1
Complexity Decidability and Graph Theory	3	1
Parallel and Distributed Processing	3	1
Cloud Computing and Machine Learning	2	1
Advanced Deep Learning	2	1
Advanced Data Visualization	3	1
Business Intelligence	2	1
Advanced Data Mining	5	1
Project	3	1
Design Contemporary Issues Module 1	2	1
Enlightenment sessions		1
Constraint Programming and Optimization	5	2
Introduction to Scala	3	2
Big Data Management	5	2
Introduction to Complex Dynamical Systems	2	2
Project	3	2
Design Contemporary Issues Module 2	2	2
Enlightenment sessions		2

CY TECH

Ingénieur
Génie Civil / Architecte

A 1-year Master's degree

CHARGEMENT...

En attente d’informations

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