International Bachelor Ygrec
IN MODELLING AND DATA SCIENCE
2019/2020
Data science, cyber security, economic and financial engineering, artificial intelligence are all great challenges which companies face today and which require cutting edge, contemporary skills.

The International Bachelor Ygrec offers a completely new and innovative teaching programme enabling you to tackle the latest Information Technologies and Data challenges.

In a world that is perpetually changing, who knows what job profiles will be like in ten, fifteen or twenty years?

Tomorrow’s managers are likely to be in constant evolution and will be required to sharpen skills, update methods or handle new technologies on a regular basis: International Bachelor Ygrec trains people in the fundamental evolutions of the future.

IT/Data: be prepared for the jobs of tomorrow

Join an excellence university network

Students following the International Bachelor Ygrec will have access to an extensive group of experts in numerous scientific, engineering and management disciplines as well as access to a network of diplomas from Université Paris Seine member establishments. The Université Paris Seine was selected by the French government as one of the few national “Universities of Excellence” under the «Investment for the Future» call.

A 4 YEAR PROGRAMME TAUGHT EXCLUSIVELY IN ENGLISH

BE PART OF AN EXTENSIVE INTERNATIONAL EDUCATION AND RESEARCH CONSORTIUM RIGHT NEXT TO PARIS!

Cergy Pontoise University, ESSEC and EISTI have built a consortium of international higher education and research institutions, joining forces to design accredited diplomas at the cutting edge of new tech issues, among which, the International Bachelor Ygrec.

37,000 Students, of whom 12% are foreign students

2,700 Professors and researchers

39 Research centers

500 PhD students

150 International co-thesis projects

650 Academic and research international partnerships worldwide
A new way of learning

Knowledge vs reality...

Acquiring solid foundations in core disciplines such as mathematics, statistics or even algorithmics is at the heart of the International Bachelor Ygrec programme. Our method of “learning by doing” immerses students in real situations as from the beginning of the cursus: fieldwork exercises, projects, internships in companies. The more you are immersed in projects, the more you learn. The more you learn, the better you solve difficult professional challenges.

Learn how to apply, learn by doing and learn how to learn

Knowledge acquired in the classroom is applied to real situations such as immersion projects. Practical challenges also offer a unique opportunity to identify grey areas. Frequent feedback from the instructors, sharing experiences and self-assessment help you update your learning strategies and knowledge foundations in order to develop dexterity for problem solving.

Team project immersion: example

In 2018, the participants were asked to contribute to the fight against insect transmitted infectious diseases. Nowadays, more than 400 million people suffer from such diseases worldwide. In small groups, guided by the instruction team, participants conceived and made modules that could contribute to this struggle, such as insect detectors or software to improve entomologists’ understanding of insect behavior. Such projects give students the opportunity to learn how to work as a team and help develop skills like project management, professional communication, autonomy and taking initiatives. They encourage learning by defining needs in scientific knowledge and practices required in order for students to achieve their project goal.
Professional and personal skills

Companies expect young graduates to take initiatives, plan activities, identify and manage priorities, understand the needs of interlocutors and adapt their language for target audiences. These skills are developed as from the first year of study during internships, team projects, thematic seminars (such as: “develop your imagination” or “the keys to successful teamwork”). Frequent supervised feedback sessions help reinforce the development of soft-skills.

Look beyond and further

The programme includes conferences and workshops hosted by professionals and researchers, about contemporary issues linked to data. This part of the programme aims to provide a better understanding of current and future issues and solutions e.g. what could Data Science contribute to the health industry or to the circular economy? Ultimately, they help you plan your career.

Be prepared for your future professional life...

Agility, adaptability and life skills

will all be developed throughout the 4 years of study, you will progressively build solid technical and intellectual foundations.

Build, reinforce knowledge, explore the environment, drive projects

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<tr>
<th>Basics</th>
<th>Projects</th>
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<tbody>
<tr>
<td>Mathematics: Analysis in R, Complex numbers and trigonometry, Linear Algebra, Probability</td>
<td>Business plan, Plan the project, Achieve the project, Teaching staff are there to support and guide you during your projects. Project example: Programming an electronic system</td>
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<td>Physics: Electricity, Kinematics</td>
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<td>Information Processing: Algorithmic, Programming Data Base</td>
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<td>Economy: Macroeconomics, Microeconomics</td>
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<th>Diving Deeper: 2 choices</th>
<th>Contempory issues:</th>
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<td>Mathematics: Logic and set theory</td>
<td>Historical cryptography, Statistics and data analysis: what polls say and don’t</td>
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<td>Physics: Optics (problem based), Newton mechanics</td>
<td>Computer and smartphone operating systems: understand the tool I use every day!</td>
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<td>Data Processing: Relational databases and NO SQL, Android programming</td>
<td>Network and Internet: how are we connected?</td>
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<td>Economy: Applied microeconomics issues</td>
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**Connected to the business world**

Internships in companies as well as in academic partners’ research laboratories are a core part of the International Bachelor Ygrec and take place at the end of each academic year. Students will spend up to a year doing internship activities. You will develop new ways of working and will reinforce and perfect what you have learned. You will be more in phase with the demands of your future job and will gain a significant professional experience.

**Great employment opportunities**

A wide range of professional opportunities are open to graduates: Data scientist, Data Architect, System administrator, Smart System engineer, Data analyst, Security Manager, Information Security Analyst, Information system security manager.

**Further studies**

After obtaining the International Bachelor Ygrec diploma, you will have the possibility to enroll in a Master’s degree in our university or in other partner universities, or in an engineering school.

**Cross-cultural academic experience**

Being trained to work in international teams is essential in today’s global environment. International perspectives are an elemental part of the course with a study abroad period in a partner university in Europe, Asia or Africa.

**New:** deployment of the International Bachelor Ygrec on the Mauritius campus as from September 2019. You will have the opportunity to spend at least one year on this overseas campus.
The university campus is located in Cergy about 30 minutes away from central Paris. Student halls of residence, green areas, sports facilities, libraries, shops and services, cinemas and theatres all offer a pleasant and privileged environment. Our campus welcomes a diverse community of students, faculty members and staff. There are over 100 student associations on campus. The university is strengthening its sustainability plans and is developing solutions to get involved in common causes. Administrative and housing assistance is provided by the university services.

WHERE CITY LIFE MEETS NATURE:
ENCOUNTER A NEW ATMOSPHERE,
NEW TALENTS, NEW FRIENDS
Admission

Admission criteria:
• Strong academic skills in high school, especially in mathematics and science.
• High school leaving certificate enabling access to a university.
• Swiss high-school maturity certificate, European high-school certificate, or equivalent.
• English proficiency level B2.
• Tuition fees: 5,000 euros per year.

Application process: two phases
• 1/ Application documents are examined by a jury. The application phase is open from 7th January 2019 to 15th June 2019. The list of required documents and the admission forms are available on the website: https://www.u-cergy.fr/en/international-office/international-bachelor-ygrec.html
• 2/ Interview (if necessary, remote video interviews can be organised).

Contacts
• Academic team: academic_bachelorY@universiteparisseine.fr
• Admission team: admission_bachelorY@universiteparisseine.fr

For further information, visit the website: https://www.u-cergy.fr/en/international-office/international-bachelor-ygrec.html