ENGLISH TAUGHT DEGREES
2022-2023
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## DEGREES IN SCIENCES

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- Master CatgreenChem

### Environmental science
- Master Functional Behavioural and Evolutionary Ecology
- International Master of Biodiversity, Ecology & Evolution
- Master Ecology of Global changes

### Physics and properties of the matter
- Master Nanosciences, Nanomaterials & Nanotechnologies
- Erasmus Mundus MAMASELF
Photonics Master

**Mathematics**

IT Mathematics and Cryptography

Master 2 in Fundamental Mathematics

**Computer Sciences**

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The University of Rennes 1 is among the twelve main universities in France.

It is a multidisciplinary university with a reputation for excellence and dynamic research. Located in the centre of a human-scale city, it is just 1.5 hours away from Paris and only one hour from prestigious sites such as Mont Saint-Michel or Saint-Malo.

University of Rennes 1 is a truly international university, and offers degrees taught entirely in English in the fields of Chemistry, Environmental science, Mathematics, Computer Sciences, Business and management, Economics.

Rennes is a safe, lively student city, ideal for international students. It currently holds the 2nd position in the national ranking of student cities, for the quality of its training and also its quality of living:

“My stay was a great experience, in a nice environment, in my opinion Rennes is a very cool city, human size but with many things going on in the evening”

Tamari, Tbilisi, Georgia

“In Rennes, everything is really close, and everything you need is mostly on hand. It’s really enjoyable”

Egor, Nijni Novgorod, Russia
KEY FIGURES

STUDENT POPULATION

30,000 STUDENTS
129 NATIONALITIES

INTENSIVE RESEARCH ACTIVITIES

30 LABORATORIES ON CAMPUS

20 INTERNATIONAL RESEARCH PROJECTS

INTERNATIONAL AND RESEARCH INTENSIVE UNIVERSITY

AREAS OF EXPERTISE

- DIGITAL
- ENVIRONMENT
- BIOLOGY-HEALTH
- MATERIAL SCIENCES
- LAW - POLITICAL SCIENCE
- ECONOMICS-MANAGEMENT
DEGREES IN SCIENCES
INTERNATIONAL MASTER CATGREENCHEM
MASTER IN CATALYSIS, MOLECULES & GREEN CHEMISTRY

OBJECTIVES

The International Master in Molecular Catalysis and Green Chemistry is a postgraduate course in English for students in molecular chemistry. It provides the necessary skills for understanding recent and future developments of sustainable, modern, multidisciplinary chemistry at the industrial and academic level and will prepare the students for leadership roles in industry and academy.

Every student will benefit from a personal tutorial assistance, with communication in English, during the laboratory training associated to a research project. The program covers the main aspects of modern molecular chemistry and catalysis and provides students who wish to pursue a PhD degree in France or EU for the requisite level. The master is open to students with a very good background in chemistry and a good level in English.

LINKS WITH RESEARCH

CatGreenChem is linked to the Institute of Chemical Sciences of Rennes (ISCR), an internationally recognized research laboratory associated to CNRS and involved in numerous European and international networks (including 6 Joint Laboratories (Germany, China, India, Australia, Russia, Japan). It promotes diversity, multidisciplinary approach, research/industry interface and international cooperation. It brings together competence of 120 full & associated professors, 55 CNRS scientists, 200 PhD & post-doctoral and 70 master students.

LEVEL OBTAINED Master 2
DURATION 1 or 2 years
APPLICATION DEADLINE May 1st
TUITION FEES 2500 €*

REQUIREMENTS

A good bachelor (Honors) or equivalent degree (4 years) in Chemistry
ENGLISH PROFICIENCY
IELTS (6.0) / TOEFL (550 paper test) TOEIC (750)

INFORMATION & CONTACT
christophe.darcel@univ-rennes1.fr
Website

* It includes the formal registration at the University, scientific and cross-discipline courses, personal tutorial assistance and research training at the University of Rennes 1
Semester 3

- Advanced Molecular Synthesis and Industrial Chemistry
- Advanced Organometallic Chemistry
- Sustainable Homogeneous Catalysis for Fine Chemistry
- Polymers and Biopolymers
- New Molecular and Supramolecular Materials
- Green Chemistry - Concepts and Methodologies
- Tutorial project in laboratory
- French courses

Semester 4

- Bibliographic Survey and Research Seminars
- Research training

AND AFTER?

After graduation, students get the opportunity to continue their studies with a PhD in France or in leading chemical institutes in Europe, and work as a researcher in R&D, in the following fields:

- Health and Pharmacy,
- Petroleum chemistry,
- Bulk chemistry,
- Energy conversion,
- Polymers, Material Science,
- Biochemistry,
- Patent engineer,
- Assistant professor, associate professor and full professor in universities
Associated with University of Rennes 1, OSUR (Earth Science and Astronomy Observatory) facilitates and coordinates environmental research, working with 6 laboratories in this field.
MASTER FUNCTIONAL BEHAVIOURAL AND EVOLUTIONARY ECOLOGY

OBJECTIVES

The Master Functional Behavioural and Evolutionary Ecology provides students with an advanced understanding of biodiversity, ecology and evolution by applying a multidisciplinary approach. Apart from general competence in academic attitude and academic skills, graduates of the EFCE Master will acquire specific competences & knowledge in the following areas:

• The main theories, concepts and tools of scientific ecology, biodiversity and evolution
• Methods of statistical analysis (advanced statistics)
• Modelling and programming
• Molecular tools and bioinformatics
• Sampling protocols, experimental techniques in situ or in the lab, field and lab observations, and long-term monitoring.

Students will also develop during their training a variety of important soft skills including oral and written communication, team working, project management and others.

More informations available HERE

LINKS WITH RESEARCH

This master’s courses are linked with the activities of more than 100 researchers, mainly within the Rennes Observatory OSUR, and also other groups and institutes located in Rennes.

LEVEL OBTAINED Master

DURATION 1 year

1st year 40% of Teaching Units in English and 60% in French
2nd year Fully taught in English

APPLICATION DEADLINE June 7th

TUITION FEES

National fees*

REQUIREMENTS

A good Bachelor degree (honors) or equivalent degree in a related field if applying for the 1st year (ecology or biology), additional specialization in Ecology is required if applying to the 2nd year of the programme.

INFORMATION & CONTACT

cecile.lelann@univ-rennes1.fr
philippe.vandenkoornhuyse@univ-rennes1.fr

Website

* 243 € per year for european students and students from partner universities
950 € per year for non-european students
AND AFTER?

This International Master degree is mostly designed to prepare graduates for the research activities carried out by researchers, engineers, and R&D managers, but also offers the possibility to pursue other careers such as ecological consulting, governmental institutions, local or regional authorities, etc. Graduates will be able to intervene in the fields of Research and Development, Patents, technological monitoring, advice and expertise in public and/or private research structures and within different national and/or international institutions.

Semester 3  100% in english

- Ecology and evolution of communities and global change
- Biodiversity, flux and ecosystems functioning
- Evolution of behavior and life-history traits
- Advanced statistical analysis in ecology
- Scientific approach: the bibliographic analysis
- Introduction to computational ecology

UE to choose (out of the 2 following options)

- Metagenomic analysis in ecology
- Population genetics and genomics

Semester 4

Internship
RSIP
INTERNATIONAL MASTER OF BIODIVERSITY, ECOLOGY & EVOLUTION (IMABEE)

OBJECTIVES

IMABEE is a two-year research-oriented master programme for talented and motivated students who are interested in understanding biodiversity, ecology and evolution in all their facets. This master funded in 2017 is a joint project between four European Universities (University of Rennes 1, coordinator, France; Vrije Universiteit Amsterdam, Netherlands; Georg-August Universität Göttingen, Germany; Aarhus Universitet, Denmark).

Students start their first year at a Home University (one of the four partners within the Consortium). In the second year, students choose a second partner university (i.e. Host University) within the consortium. On completion of the programme, students are awarded a double degree from the two partner universities (i.e. two MSc degrees).

For the students who wish to do their 1st year in Rennes, knowledges of both French and English languages are required (~40% of the teaching given in English). The second year of IMABEE if fully given in English whatever the University of the consortium.

The MSc tracks in the four universities are highly complementary and will provide IMABEE students with a wide choice of possibilities.

More information about the various possible contents of the programme in our partner universities on IMABEE website.

* 243 € per year for european students and students from partner universities
950 € per year for non-european students

LEVEL OBTAINED: Master
DURATION: 2 years
APPLICATION DEADLINE: May 31st
TUITION FEES
National fees*
REQUIREMENTS
A good Bachelor degree (honors) or equivalent degree in a related field (ecology or biology)

ENGLISH PROFICIENCY
IELTS (6.0) / TOEFL (550 paper test)
TOEIC (750)

INFORMATION & CONTACT
cecile.lelann@univ-rennes1.fr
philippe.vandenboornhuysen@univ-rennes1.fr
Website
AND AFTER?

These two master’s degrees (Functional Behavioural Ecology and Evolution, and International Master’s degree IMABEE) provide students with an advanced understanding of biodiversity, ecology and evolution by applying a multidisciplinary approach. Apart from general competence in academic attitude and academic skills, graduates will acquire specific competences & knowledge in the following areas:

- The main theories, concepts and tools of scientific ecology, biodiversity and evolution
- Methods of statistical analysis
- Modelling
- Molecular tools
- Sampling protocols, experimental techniques in situ or in the lab, field and lab observations, and long-term monitoring

Graduates will be able to:

- Initiate a search and use the appropriate scientific tools and methods
- Adapt to changing research needs and expertise in this field
- Assist in decisions on biodiversity conservation
- Conduct a literature study to permit relevant analysis of a new fundamental or applied research question
- Develop tools for monitoring and evaluation ecosystems, communities and populations
- Produce reports in scientific English
- Communicate orally: in seminars, conferences, for scientists or for a wider public audience

The International Master’s degree IMABEE is mostly designed to prepare graduates for the research activities carried out by researchers, engineers, and R & D managers, but also offers the possibility to pursue other careers such as ecological consulting, governmental institutions, local or regional authorities, etc. Graduates will be able to intervene in the fields of Research and Development, Patents, technological monitoring, advice and expertise in public and/or private research structures and within different national and/or international institutions such as:

- Universities and research institutions
- The European Union
- Ministries of ecology, agriculture, research
- Regional and Local authorities: national parks, natural reserves, etc.
- NGOs
- Engineering, design and consulting
- Industry: Agro-chemistry, Environment

Until now, a high proportion of graduated students (>80%) enter a PhD program in France and outside France, in academic laboratories with or without close links to private sector.
OBJECTIVES

The Ecology of Global Changes programme (MSc) is an international degree devoted to the understanding, analysis and mitigation of the effects of global changes on biodiversity and ecosystem health all in a multidisciplinary approach. This degree will bring theoretical and practical knowledge to the students by a broad training of the strategies for assessing and evaluating the effects of global changes, forecasting biodiversity trajectories under different scenarios of global changes, and develop goal-oriented solutions for mitigating the effects of global changes on biodiversity.

As environmental problems resulting from global changes are complex and increasingly threatening for environment and mankind, they require innovative and multidisciplinary approaches in education and research. In this master’s degree, the students will receive an elite study program combining expertise in ecology (with the focus on stress ecology), climate change, assessment tools (statistics, modelling), and environmental economics. They will be highly qualified for solving the cross-sectoral challenges posed by global changes.

This unique and innovative training program comprises lectures, seminars, practical lessons, field courses on ecological changes and environmental management, and internships. The linking of a large panel of disciplines aims at graduating students that will further become leaders for the evaluation of environmental issues related to global changes, and propose innovative management solutions that consider social and economic contexts.
SPECIFICITY

This 2-year programme is taught in regular classroom, and a significant part of the courses are provided via e-learning. A high level of performance of the students is required, and the selected number of students will benefit from an excellent education environment, in a dynamic French city. The restricted number of students in this degree will increase the mentoring by one-on-one communication with the supervisors.

LINKS WITH RESEARCH

The University of Rennes 1, department OSUR (Environmental Sciences, Rennes) coordinates this degree. A significant part of the courses will be given by researchers and teachers from OSUR. The degree integrates national teachers having strong expertise in environmental economy. International proficient scientists will be invited to complement the teaching at all levels. During the programme, the students will profit from the research facilities of OSUR for practical lessons and mentored projects.

AND AFTER?

The Ecology of Global Changes programme (MSc) includes theoretical and practical lessons and moreover mentored projects and internship that will progressively increase the knowledge and practical skills of the students, in addition to enlarging their professional network.

The students will be able to continue in a doctoral degree. Furthermore, the programme will train the next generation of environmental decision-makers that will put in action the best ideas for mitigating the effects of global changes. The highly-qualified students will thus have the possibility to pursue careers such as ecological consulting, journalism, governmental institutions, local or regional authorities.
CONTENT OF THE PROGRAMME

Semester 1

- Community ecology in Global changes
- Biological invasions
- Biogeochemical Fluxes in the context of Global changes
- Assessment Strategies
- Green Economy, Environmental management: field courses
- The basics of biostatistics (theoretical background, E-learning)

Semester 2

- Introduction to modelling (e-learning)
- Environmental economics
- Environmental ecophysiology
- Communication in Science
- Mentored project

Semester 3

- Ecotoxicology, Environmental Pollution
- Urban Ecology and Megacities
- Water in the context of global changes
- Environmental management
- Forecasting the ecology of global changes

Semester 4 Internship
INTERNATIONAL MASTER’S DEGREE NANOSCIENCES, NANOMATERIALS AND NANOTECHNOLOGIES

OBJECTIVES

The Nanosciences, Nanomaterials and Nanotechnologies Master 2 programme prepares qualified executives specialized in the elaboration, characterization, and modeling of innovative nanomaterials.

Graduated students are trained to find correlations between properties of nano-structured materials at the atomic and macroscopic levels, to understand nanomaterial interactions with their specific environments and to implement specific experimental and modeling tools at the nanoscale. The Master 2 students are also trained to integrate nanomaterials in view of their use for specific technological applications.

The Master 2 program in Nanosciences, Nanomaterials and Nanotechnologies is a partnership between 4 Universities: University of Rennes 1, Nantes University, South Brittany University and Occidental Brittany University. An international double diplomation with the Adam Mickiewicz University in Poznan (Poland) is also proposed.

LINKS WITH RESEARCH

In Rennes, this programme is led by 3 laboratories:

IPR (Institut de Physique de Rennes), IETR (Institute of Electronics and Telecommunications of Rennes) and ISCR (Institute of Chemical Sciences of Rennes). The Master’s degree is also a joint program with Universities of Nantes, Lorient and Brest, and benefits from the support of IMN (Institute of materials, Nantes), IRDL (Institut de recherche Dupuy de Lôme, Lorient) and OPTIMAG (Brest).

LEVEL OBTAINED Master
DURATION 1 year
APPLICATION DEADLINE Mid-may
TUITION FEES
National fees*
REQUIREMENTS
A first year of Master’s degree in Physics, Physical-chemistry or Material science is required to join the International Master’s degree Nanosciences, Nanomaterials and Nanotechnologies.
ENGLISH PROFICIENCY
TOEFL IBT 80 CBT 230 and PBT 550 IELTS 6.5 or equivalent
INFORMATION & CONTACT
pascal.turban@univ-rennes1.fr
Website

* 243 € per year for european students and students from partner universities
950 € per year for non-european students
Semester 1

Common core lectures (Nantes/Lorient/Brest)

- Nanophysics
- Nanoelectronics
- Nanocomposites
- Nanomaterials
- Nanocharacterization
- Nanobio-objects

Practical teaching

- Nanotechnology
- Thin films
- Sensitization to nanotoxicology
- Numerical project
- Innovation and intelligence information
- Scientific english

Specialization lectures

- Nanophotonics
- Surface functionalization

Semester 2

- Monte-Carlo molecular simulation
- Experimental project

Master thesis (5 months or more, in academic or industrial laboratory)

AND AFTER?

After graduation, students get the opportunity to pursue their studies with a Phd in an academic or industrial laboratory and work as an academic researcher or research engineer in R &D, in the following fields:

- Information and communication technologies
- Materials for renewable energy sources
- Transports (automotive and aeronautics)
- Health and environment

In the industrial sector, graduated students with the nanosciences and nanotechnologies specialization are aimed to work in companies focusing on technological innovation seeking for more effective materials or technological breakthrough by the integration of nanomaterials. Graduated students will also be able to interact with professionals in the related fields of medical or biological sectors (nanomedicine, nanobiomaterials).
**ERASMUS MUNDUS MASTER MaMaSELF+**

**Master in Materials Science for Energy and using Large Scale Facilities**

Multiple Degree. Awarded at University of Rennes 1, two possible specializations: **Fundamental and applied physics**, or **Chemistry, specialization in Material Sciences**

**OBJECTIVES**

The objectives of the MaMaSELF Erasmus Mundus program is to form students to fundamentals of materials with special emphasis on materials for energy applications and onto the understanding and use of large scale facilities, like neutrons sources, synchrotron sources or x-ray free electron laser sources, which are the more advanced techniques to materials from ultimate scales to extreme condition, and to cutting-edge science and technology. During the program, students coming from all over the world have several mobility paths, in the consortium institutions (France, Germany, Italy, Poland) or at associated partner institutions out of Europe. Through such mobility and program key-events (integration week, summer-school dedicated to the use of large scale facilities, status meeting), students develop transversal and soft skills, and benefit from social and cultural enrichment, yielding added values for employability.

**LINKS WITH RESEARCH**

The master program is connected to research groups and institutes of the consortium institutions (Institut de Physique de Rennes, Institut des Sciences Chimiques de Rennes, department of Geoscience Ludwig Maximilians Universität, department of Physics Technische Universität Munchen, Institut Charles Gerhardt Montpellier, department of chemistry University of Torino, department of Physics Adam Mickiewicz University Poznan).

* including registration at consortium universities, health insurance, language courses and MaMASELF specific events

**LEVEL OBTAINED** Master

**DURATION** 2 years

**APPLICATION DEADLINE**
- February 17th for EU applicants
- March 20th for non-EU applicants

**TUITION FEES**
- 6000€ per year for non-EU students, 3000€ per year for EU students*

**REQUIREMENTS**
- A bachelor of Science or equivalent degree in Chemistry, Physics or Materials Science & Engineering (or equivalent). Students must go through the joint selection process of the MaMASELF consortium and follow the two-years program

**ENGLISH PROFICIENCY**
- TOEFL 230 cbt, 80 ibt, 550 pbt
- IELTS 6.5

**INFORMATION & CONTACT**
- christiane.cloarec@univ-rennes1.fr
- philippe.rabiller@univ-rennes1.fr

**Website**

English-taught degrees at Université de Rennes 1
International research cooperation also concerns associated partner universities (in Japan, India, Russia, Brazil and USA), and associated large-scale facilities: neutron reactors, synchrotron sources or x-ray free electron lasers (ILL, ESRF, FRM-II, Paul Sherrer Institut, SOLEIL, ALBA, DESY). Consortium universities also develop research collaboration with private or industrial companies’ research or R&D centers.

**AND AFTER?**

Nearly 100% of students find a placement within the six months after the master program. Majority of students (~80%) enter PhD programs in the field of materials science or large scale facilities. Students find jobs in various institutions and companies: universities, neutron or synchrotron facilities, space agencies, research, R&D or quality centers, automotive industry, scientific instrumentation companies, start-up companies, etc.

**Content of the program**

MaMaSELF+ program is a two-year master program with compulsory mobility periods. After selection, the students attend, in September of their first year of master, the integration week in Rennes.

Then they join one of the consortium universities (University of Rennes 1, University of Montpellier, Ludwig Maximilians Universität, Technische Universität München, Università degli Studi di Torino) for the 1st academic year where they cumulate 30 ECTS (lectures, labs and eventually internship depending on the university).

At the beginning of the second year, all students gather in Montpellier and attend an intensive summer-school dedicated to large scale facilities. Students then join a different university, in a different country for their 3rd academic semester (30ECTS), including the 6th consortium partner, Adam Mickiewicz University. The 4th semester is fully dedicated to the master-thesis, with an at least 5 month placement and training in a research lab at one of the consortium partners, associated partners, or large scale facility partners, or industrial partners.

Students are awarded multiple degree at the end of their master, with a joint diploma supplement.
PHOTONICS MASTER’S DEGREE

OBJECTIVES

The purpose of the specialization of this course is to provide students with advanced scientific and technical training (to the Master 2 level) in the field of photonics, allowing them to understand the main topics of research and R & D.

The photonics specialty (M2) is organized into two foundations in the 3rd semester: a scientific foundation, with three study paths, and a practical and vocational foundation (scientific, technological and professional). The student must complete an internship in semester 4. The broad spectrum of training also guarantees that students from M1 will have direct opportunities to enter scientific and technological professions without necessarily continuing to do a research degree. An international “Master’s in Photonics” option is open to English-speaking students.

LINKS WITH RESEARCH

The research laboratories associated with this specialty are: CNRS Institute Foton, CNRS Labsticc, and OPTIMAG. The outside contributors involved are therefore experienced lecturer-researchers from recognized laboratories, working in core-facility environments.

Training through research is based on the combined expertise of these contributors, communicated to the students through a practical scientific initiation TU (introduction to research, scientific conferences), the teaching of skills related to the research profession: use of English, programming, carrying out a project, etc. The training also includes practical aspects: it offers a remarkable opportunity to discover five research platforms (Nano-Rennes, CCLO, PERFOS, PERSYST and PIXEL).

LEVEL OBTAINED Master
DURATION 1 year
APPLICATION DEADLINE May 28th
TUITION FEES National fees*

REQUIREMENTS

As with any Master 2, application is subject to a selection procedure. An admission board composed of representatives from the six partner establishments (ENIB, ENSSAT, IMT Atlantique, INSA-Rennes, University of Rennes 1, University of West Brittany) decides which candidates will be admitted.

ENGLISH PROFICIENCY

Proficiency in English must be certified by an international test, B2 level (e.g. TOEFL, TOEIC, IELTS).

INFORMATION & CONTACT

responsable.master photonique@enssat.fr

Website
For internships, students are placed in the top laboratories in France (CNRS, CEA, ONERA, Orange Labs, etc.) and abroad (EPFL, Technion, Stanford, MIT, ORC Southampton, etc.).

For internships, students are placed in the top laboratories in France (CNRS (CELIA, Ecole Polytechnique, IOTA, LAAS, LPN, etc.), CEA, ONERA, Orange Labs, Alcatel-Lucent, Telecom Paris Tech, etc.) and abroad (EPFL, Technion, Stanford, MIT, ORC Southampton, etc.).

AND AFTER?

The photonics industry requires high qualifications and a supply of PhD graduates. The photonics specialty meets that need by building on the research units Institute Foton, Institut de Physique de Rennes (IPR), the optical department of Telecom Bretagne, and the Labsticc, OPTIMAG. The Master's degree trains scientists to an advanced level in photonics technology, a key enabling technology. They can enter the workforce at public or private research organizations in the fields of technologies of communication and information, nanotechnology, and imaging for life and environmental sciences. Graduates can pursue their studies further by doing a PhD.

They can then work in the academic field as researchers or lecturer-researchers.

This training is also particularly suitable for industrial environments (SME or large industrial groups), i.e., becoming an engineer or manager (Research & Development, instrumentation, etc.).
IT MATHEMATICS AND CRYPTOGRAPHY

OBJECTIVES

Students will gain in-depth understanding of cryptography by learning the necessary theory behind modern cryptography and information theory. Fundamental mathematics for modelisation and digital information processing include several branches of mathematics, such as algebra, geometry, combinatorics and probability. The aim of this specialisation is to teach students how to handle complex mathematics both from a theoretical and algorithmic point of view. The programme’s teaching staff come from academic and research (IRMAR and IRISA labs) and the industrial sectors (DGA-MI - Information Control Defence Agency, Orange Labs, and Amossys, amongst others). In addition to this mathematical knowledge, students also acquire skills in Computer Science through courses shared with students from other specialisations.

Acquired skills:

- Expertise in symmetric, asymmetric and post-quantum cryptography, cryptanalysis and side channel attack
- Proficiency in complex mathematics for use in a range of areas (mobile telephones, wireless networks, remote internet transactions, widespread use of smart cards in securing commercial transactions, biometric identification techniques, remote identification)
- Dual skills in mathematics and IT to enable students to work in information security, IT security and security software development
- Ability to adapt to new problems, attacks and environments.

This master’s degree forms part of CyberSchool’s education in cybersecurity. The programme has been granted the ANSSI (French national agency for information systems security) SecNumedulabel.
**LINKS WITH RESEARCH**

CyberSchool offers unique conditions for pursuing studies with a doctorate through:

- The research project included in the master’s degree
- The teacher-researchers present in the training
- Partnerships with research centres
- 2 internships that can be carried out in research centres

**STRUCTURE**

The program is divided into 4 semesters. The programme is taught 30% in English and in 70% in French, through lectures, tutorials and practicals. Students are expected to conduct two internships, one in their first year and one in there second year of Master’s programme.

**AND AFTER ?**

Increasing digital activity means that cryptography is a rapidly-developing sector. The Master's programme delivers dual proficiency in mathematics and IT, which is rare in the current job market. Graduates are able to apply for the following positions:

- R&D Engineer and IT Security Developer
- Research Engineer specialised in IT security
- Security Software Developer
- Research in cryptography or security
MASTER 2 IN FUNDAMENTAL MATHEMATICS

OBJECTIVES

The 2nd year of our Master pathway in Fundamental Mathematics prepares students to undertake research in mathematics, either pure or applied. The curriculum provides Master students with a large variety of lectures and scientific events, partly renewed every year. It mixes items contributing to the student grades (lectures, seminar, internship) with elements less formal but fostering students insertion into research activities (advanced lectures, master classes,...). The program takes place in Rennes but receives contributions from all institutions and universities of Rennes and Brest. It also benefits from the support of the Henri Lebesgue Center, promoting excellence of research in mathematics in our regional area.

STRUCTURE

Although lectures are organized by themes, students may mix lectures (partly renewed each year) from different themes (only four are required at first semester, and two only during second semester; students may attend more lectures during both semesters). Along the first semester, students read a research paper that they present to other students during a series of student talks, called «seminar». The year ends with an internship, at least two-months long, in a mathematical research department. During the internship, students prepare a Master thesis.

AND AFTER ?

All professions in fundamental or applied research with mathematics as a core.

* 243 € per year for european students and students from partner universities
950 € per year for non-european students

LEVEL OBTAINED: Master 2
DURATION: 1 year
APPLICATION DEADLINE: June 6th
TUITION FEES:
National fees*

REQUIREMENTS

Students must have obtained the Master 1 level in Mathematics, preferably with a good average.

ENGLISH PROFICIENCY

B1 level recommended

INFORMATION & CONTACT

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Website

* 243 € per year for european students and students from partner universities
950 € per year for non-european students
INTERNATIONAL MASTER DEGREE IN CLOUD & NETWORK INFRASTRUCTURES

OBJECTIVES

This Master program prepares future professionals and researchers with an advanced scientific and technological education together with a unique hands-on experience in technological innovation and entrepreneurship.

The domain of Cloud & Network Infrastructures includes many hot topics such as big data analytics, scalable mobile applications and services, online social networks and web services. These technologies are now present in a broad range of devices and systems ranging from smartphones to data centers. New scientific and technological developments in this area create considerable industry demand for engineers who can design software systems utilizing these developments. This Master program provides students with state-of-the-art knowledge of the field, develops their practical skills and enhances their ability to adapt to the future developments of science and technology.

After completion of the program, students will deeply understand large-scale distributed systems, be able to design and construct such systems and services, and become key players to transform technology into innovations. The program also prepares students to spot business opportunities for new high-tech products and successfully bring them to the market. A courses on the fundamentals of Innovation and Entrepreneurship, the Business Development Labs Course and a summer school program are vital parts of this module. As innovation centre, the EIT Digital Co-location Centre organizes frequent meetings with entrepreneurs and industry professionnals and also provide several modules in which our students have priority to apply: a summer school, a pre-incubator programme (INCUBE), and one-week seminars with specific topics all over the year.

*The team EIT Digital at the University of Rennes 1 provides a complete support to candidates to assist them in their application to Eit Digital master.

LEVEL OBTAINED Master

DURATION 2 years

APPLICATION DEADLINE April 11th

TUITION FEES
- International track: 3000 € per year
- Local track: 243 € per year

REQUIREMENTS
- A Bachelor degree (180 ECTS equivalent) in computer science, computer engineering or information systems. Students should have basic competence in mathematics, theoretical foundations of computer science, algorithms and data structures, software engineering and database systems, computer architectures, computer networks and operating systems

ENGLISH PROFICIENCY
- IELTS: an overall band score of at least 6.5, with no section lower than 6.
- TOEFL iBT: a total score of at least 92 (with writing section 22 or more)
- TOEIC: score 785 or above

INFORMATION & CONTACT*
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- Website

*The team EIT Digital at the University of Rennes 1 provides a complete support to candidates to assist them in their application to Eit Digital master.
Located on the “Digital Hub of Rennes” Beaulieu campus the EIT Digital CNI is close to major industrial R&D centers, over 300 SMEs and the two largest research labs in ICT in France: IRISA and INRIA, with 750 researchers and staff members.
**YEAR 1**

**Fundamentals (15 ECTS)**
- Object-oriented Software Design
- Networks: from Services to Protocols
- Operating Systems

**Specialization (15 ECTS)**
- Big Data Storage and Processing Infrastructures
- Service (and Cloud) Technologies
- Distributed Systems

**Elective Courses (10 ECTS)**
- Modeling for Performance Evaluation and Safety Analysis
- Parallel Programming
- Real Time Informatics
- Operating Systems - Kernel Implementation
- Advanced Networking Technologies

**Minor in Innovation and Entrepreneurship (20 ECTS)**

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**YEAR 2 Specialization**

**Compulsory courses (16 ECTS)**
- Advanced Cloud Infrastructures
- Personal Project on Cloud and Networks
- Smart City Services: From infrastructure to applications
- Scalable Networks for Optimized Service Delivery

**Elective courses (8 ECTS)**
- Multimedia networks
- Advanced Wireless Networks: 5G and Beyond
- Data Mining and Visualization

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**AND AFTER?**

After obtaining knowledge and expertise in cloud and network infrastructures, students will be able to join the ICT ecosystem in the Rennes Cluster and a great number of companies focusing on cloud and network services. The experience of the international programs (i.e. Data science and FinTech) has shown that students completing EIT Digital Masters are able to access higher level positions than those trained in a classical master. EIT Digital students are highly valued and recognized by companies, which are also involved in the continuous improvement of the program. PhD opportunities, particularly in CIFRE contracts in France but also abroad, are also provided. The scholarship for the EIT Digital Doctoral School is a great opportunity for Master students!
INTERNATIONAL MASTER DEGREE IN CYBERSECURITY

OBJECTIVES

This Master program prepares future professionals and researchers with an advanced scientific and technological education together with a unique hands-on experience in technological innovation and entrepreneurship.

Cybersecurity is the security in computer systems, and as such its domain encompasses not only almost all the devices in our personal environment: computers, smartphones, tablets, smart cards, key fobs, but also infrastructures such as power grids, water supply systems, etc. Therefore cybersecurity extends far beyond the Internet.

The domain of Cybersecurity includes many hot topics such as Network architecture and administration, Cryptographic architectures and protocols, Methodology for the design of secure architectures, Cyberattacks and cyberdefense, Cybersecurity for the Internet of things, Software engineering techniques for cybersecurity. After completion of the program, students will be able to design, code, validate and manage new secure architectures or assess and correct existing architectures to protect them from cyberthreats.

The program also prepares students to spot business opportunities for new high-tech products and successfully bring them to the market. Courses on the fundamentals of Innovation and Entrepreneurship, the Business Development Labs Course and a summer school program are vital parts of this module.

*The team EIT Digital at the University of Rennes 1 provides a complete support to candidates to assist them in their application to Eit Digital master.

LEVEL OBTAINED Master
DURATION 2 years
APPLICATION DEADLINE April 11th
TUITION FEES
International track: 3000 € per year

REQUIREMENTS A Bachelor degree (180 ECTS equivalent) in computer science, information systems, mathematics, statistics, electrical engineering / electronics. Students should have knowledge of the fundamentals of computing and information sciences and technologies

ENGLISH PROFICIENCY
IELTS: an overall band score of at least 6.5, with no section lower than 6.
TOEFL iBT: a total score of at least 92 (with writing section 22 or more)
TOEIC: score 785 or above

INFORMATION & CONTACT*
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eit-istic@univ-rennes1.fr

Website
**YEAR 1**

**Semester 1**

**Compulsory courses**
- Introduction to Security
- Software engineering & Security
- Operating Systems & Security
- Network Security

**Minor in Innovation & Entrepreneurship**
- Introduction to Innovation and Business Knowledge & intangible assets management
- Business Development Laboratory

**Semester 2**

**Compulsory courses**
- Algorithmics for security Privacy
- System Security
- Software Security

**Minor in Innovation & Entrepreneurship**
- Business Development Laboratory

**AND AFTER?**

Graduates from the Cyber Security (CSE) master’s programme will qualify for jobs in international and local organisations in both technical and business roles. Typical titles are:

- Cyber Security consultant
- Security Analyst
- Information Security Architect
- Cyber Security Specialist
- Computer forensics expert
- Privacy-by-design consultant
- Security Auditor
**OBJECTIVES**

The Research in Computer Science (SIF) master offers a wide choice of courses from various active research domains in Computer Science.

The SIF master is administered by a consortium of the main computer science universities and graduate schools in Brittany: University of Rennes 1, University of Southern Brittany (UBS), ENS Rennes, National Institute of Applied Sciences, Rennes (INSA) and CentraleSupélec. This consortium of institutions, with the support of renowned laboratories, offers students training at the cutting edge of computer science research. The program is supported by an agreement with Inria.

The methodological part of the program comprises a bibliographic study, training in oral expression techniques which will be applied through participation in the colloquium of the master, a series of lectures and seminars, and work experience in a research team (internship).

More information about the courses [here](#)

**HOSTING LABORATORIES**

The Research in Computer Science (SIF) master offers a wide choice of courses from various active research domains in Computer Science.

Each year, several internships are proposed by the teams of the host laboratories: IRISA (Institut de recherche en informatique et systèmes aléatoires) located in Rennes, INRIA Rennes Bretagne Atlantique regional research center, Lab-STICC (Laboratoire en sciences et techniques de l’information de la communication et de la connaissance).

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**LEVEL OBTAINED** Master

**DURATION** 2 years

**APPLICATION DEADLINE** April 1st

**TUITION FEES**

National fees *

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**REQUIREMENTS**

Applicants to the Research in Computer Science Master must have completed the first year of a Master’s in Computer Science, or an equivalent Computer Science qualification.

**ENGLISH PROFICIENCY**

- IELTS: an overall band score of at least 6.5, with no section lower than 6.
- TOEFL iBT: a total score of at least 92 (with writing section 22 or more).
- TOEIC: score 785 or above

**INFORMATION & CONTACT**

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david.gross-amblard@univ-rennes1.fr

Website

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* 243 € per year for european students and students from partner universities,
  950 € per year for non-european students
MASTER IN FINTECH

OBJECTIVES

This Master program prepares future professionals and researchers to develop in-depth theoretical and technical skills in courses such as Data Management, Machine Learning, and Symbolic Data Mining. It provides a Minor in Innovation and Entrepreneurship oriented to FinTech services and technologies (i.e. I&E Basics, I&E Electives, Business Development Labs; and Application Project in Digital Finance) and offers specialized training in Cloud and Bigdata Management and Datawarehouses. The program also prepares students to spot business opportunities for new high-tech products and successfully bring them to the market. As innovation centre, the EIT Innovation Centre organizes frequent meetings with entrepreneurs and industry professionals.

LINKS WITH RESEARCH

The Fintech specialisation is backed by the Faculty of Economics of the University of Rennes 1 and IRISA, one of the biggest computer science research labs in France with 800 people. Most teachers in our master are researchers in one of those groups, ensuring quickly evolving course contents.

STRUCTURE

The Fintech master program is proposed in two different tracks: EIT Digital and University of Rennes 1. In the EIT Digital Track, students will spend their two study years in two different European universities. They will receive a double master’s degree as well as an EIT Digital certificate, documenting the specific EIT Digital learning outcomes. The universities participating in this program are University of Rennes 1, ELTE, KTH, Nice UCA, POLIMI, Trento and UPM. In the University of Rennes 1 track, students will follow exactly the same set of courses as students from the EIT Digital master school, except that they will spend their two study years in Rennes. They will receive a master’s degree in Fintech from the University of Rennes 1.

*The team EIT Digital at the University of Rennes 1 provides a complete support to candidates to assist them in their application to Eit Digital master.

LEVEL OBTAINED

Master

DURATION

2 years

APPLICATION DEADLINE

April 11th

TUITION FEES

International track: 3000 € per year
Local track: 243 € per year

REQUIREMENTS

Applicants must hold a bachelor’s degree 3 in Computer Science or equivalent. Students from economic can apply, provided that they have enough computer science knowledge. A personal project regarding an innovative technological idea that the candidate would like to develop in the future has to be submitted.

ENGLISH PROFICIENCY

IELTS: an overall band score of at least 6.5, with no section lower than 6.
TOEFL iBT: a total score of at least 92 (with writing section 22 or more)
TOEIC: score 785 or above

INFORMATION & CONTACT*

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Website
YEAR 1

Semester 1
Innovation and Entrepreneurship / Fintech Basics (5 ECTS)
Business Development Laboratory 1 (5 ECTS)
Introduction to Finance (5 ECTS)
Basics of Data Analysis (6 ECTS)
Advance Data Bases (4 ECTS)
Object oriented analyses and design (5 ECTS)

Semester 2
Business Development Laboratory 2 (5 ECTS)
Knowledge and Intangible Assets Management - KNI (5 ECTS)
FinTech business cases (5 ECTS)
Machine learning 1 (5 ECTS)
Semantic Web Technologies (5 ECTS)
Database Security (5 ECTS)

YEAR 2 Specialization Software Security

Semester 1
I&E study on Fintech (6 ECTS)
Fintech Project (4 ECTS)
Data Mining (5 ECTS)
Machine Learning 2 (5 ECTS)
Datawarehouses (3 ECTS)
Cloud and Big Data Management (3 ECTS)

Semester 2
Master Thesis (30 ECTS)

AND AFTER?

Students will be able to contribute to the digital transformation of the Digital Finance industry and join an extraordinary ecosystem of entrepreneurs, companies, students and alumni across the world. EIT Digital’ students are highly valued and recognized by companies, which are also involved in the continuous improvement of the program. PhD opportunities, particularly in CIFRE contracts in France but also abroad, are also provided. The scholarship for the EIT Digital Doctoral School is a great opportunity for Master students!
MASTER IN DATA SCIENCE

OBJECTIVES

The students will learn to analyse business intelligence problems, and to make the appropriate choices among the numerous existing methods and tools. They will also learn to conduct the data science workflows, and to analyse the results in cooperation with domain experts. At University of Rennes 1, we have already built for decades a strong enterprise culture where students acquire competencies for communicating with non-IT domain experts, especially in business. Those competencies are highly valued and recognized by companies, which are also involved in the continuous improvement committee of the existing cursus on which this master is founded.

LINKS WITH RESEARCH

The Data Science specialisation is backed by IRISA, one of the biggest computer science research labs in France with 800 people. Most teachers in the master are researchers in one of those groups, ensuring quickly evolving course contents.

STRUCTURE

The Data Science master program is proposed in two different tracks: EIT Digital and University of Rennes 1. In the EIT Digital Track, students will spend their two study years in two different European universities. They will receive a double master’s degree as well as an EIT Digital certificate, documenting the specific EIT Digital learning outcomes. The universities participating in this program can be found here. In the University of Rennes 1 track, students will follow exactly the same set of courses as students from the EIT Digital master school, except that they will spend their two study years in Rennes. They will receive a master’s degree in Data Science from the University of Rennes 1.

*The team EIT Digital at the University of Rennes 1 provides a complete support to candidates to assist them in their application to Eit Digital master.

LEVEL OBTAINED  Master
DURATION  2 years
APPLICATION DEADLINE  April 11th
TUITION FEES  
International track: 3000 € per year
Local track: 243 € per year

REQUIREMENTS  Applicants must hold a bachelor’s degree in Computer Science or equivalent. A personal project regarding an innovative technological idea that the candidate would like to develop in the future has to be submitted.

ENGLISH PROFICIENCY

IELTS: an overall band score of at least 6.5, with no section lower than 6.
TOEFL iBT: a total score of at least 92 (with writing section 22 or more)
TOEIC: score 785 or above

INFORMATION & CONTACT

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Website
## YEAR 1

### Mandatory and elective courses

- Innovation and Entrepreneurship Basics (5 ECTS)
- Business Development Laboratory 1 (5 ECTS)
- Basics of Data Analysis (6 ECTS)
- Advanced Databases (4 ECTS)
- Operations Research (5 ECTS)
- Object Oriented Analysis and Design (5 ECTS)
- Intangible assets management (5 ECTS)
- Business Development Laboratory 2 (5 ECTS)
- Summer School (4 ECTS)
- Machine Learning I (5 ECTS)
- Semantic Web Technologies (5 ECTS)
- Database Security (5 ECTS)
- Technological Watch (5 ECTS)

## YEAR 2

### Mandatory and elective courses

- I&E study (6ECTS)
- Machine Learning II (5 ECTS)
- Data Mining (5 ECTS)
- Indexing and Visualization (3 ECTS)
- Datawarehouses (3 ECTS)
- Cloud and Big Data Management (3 ECTS)
- Case Study in Data Science (5 ECTS)

### Semester 2

- Master Thesis (30 ECTS)

**AND AFTER?** After obtaining knowledge and expertise in data science, students will be able to join the ICT ecosystem in the Rennes Cluster and a great number of companies focusing on Data Analytics services. The experience of the international programs (i.e. CNI and FinTech) has shown that students completing EIT Digital Masters are able to access higher level positions than those trained in a classical master. EIT Digital’ students are highly valued and recognized by companies, which are also involved in the continuous improvement of the program. PhD opportunities, particularly in CIFRE contracts in France but also abroad, are also provided. The scholarship for the EIT Digital Doctoral School is a great opportunity for Master students!
DEGREES IN BUSINESS, ECONOMICS, MANAGEMENT AND LAW
OBJECTIVES

The Advanced Studies and Research in Finance program is a one-year Master 2 program whose main objectives are to prepare students for doctorate level studies as well as for the CFA® (Chartered Financial Analyst® credential) exam, and to provide them with a solid background and training to pursue careers in the financial, banking, insurance and corporate sectors as research analysts, financial consultants or executives.

Students acquire up-to-date knowledge and become experts in their field of specialization. The program allows students to choose elective topics, depending on their academic project (i.e. research or CFA® preparation). The Master’s thesis is an essential part of the research project. Great emphasis is placed on the development of critical analysis and innovative skills. All students will have the possibility to attend preparation classes for the CFA® exam. The cost of this certification is covered by the IGR-IAE.

LINKS WITH RESEARCH

The program and the supervision of students whose focus is on research are supported by the Research Center for Economics and Management (CREM in French), which is the only research center dedicated to Economics and Management Sciences accredited by the National Center for Scientific Research (CNRS) in western France.

LEVEL OBTAINED: Master 2
DURATION: 1 year
APPLICATION DEADLINE: May 31st
TUITION FEES: 6990 euros

REQUIREMENTS: In order to apply, students should hold a 4-year Bachelor’s, or a Master 1 or Master 2 or a 4 or 5-year business school diploma in the field of finance. Holders of a 3-year Bachelor’s Degree are not eligible to apply.

ENGLISH PROFICIENCY: The language test in English is not mandatory if the candidate is a Native English speaker or studied in English at University level. Non-English native speakers must submit official international scores of one of the following tests:
- IELTS: overall band score of 6 or
- TOEFL: 550 paper test (100 IBT score)
- TOEIC: 750 or over

INFORMATION & CONTACT

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Website
Semester 1

- Recent Advances in asset management and financial markets
- Recent Advances in corporate finance theory
- Recent Advances in banking finance
- Quantitative techniques & data management
- Electives
  - Preparation 1 to CFA (CFA track)
  - Preparation to research: theory and practice
- French as a foreign language

Semester 2

- Recent Advances in Financial Markets and corporate finance
- Financial Accounting & Reporting
- Preparation to CFA (CFA track)
- Preparation 2 to research: theory and practice (Research track)
- Conferences and seminars
- Internship
- French as a foreign language

AND AFTER?

Graduates from the master’s degree in Finance can become Researchers and consultants in finance (market or corporate finance), risk managers, portfolio and asset managers, financial managers in banks or companies, employees in IT services or consulting firms, researchers or academic researchers (this outlet involves further study in the doctoral program), managers and financial executives in finance departments, investment banks and insurance companies.
**MASTER IN INTERNATIONAL HUMAN RESOURCES PROJECT MANAGEMENT**

**OBJECTIVES**
Based on active learning, the training combines a comprehensive academic program in international human resources management (HRM) with intensive French language courses. It develops a wide range of relevant skills in social innovation and in HRM. Students take part in HRM project management in an international context (e.g. talent or mobility management) and on current issues (e.g. digital management, workplace quality of life and multicultural team management). These projects are supervised by professors, international speakers and professionals.

**Key Managerial Skills Developed:**
- Understanding the international and multicultural management context
- Acquiring specific knowledge essential to HRM in an international context
- Leading project in change management, team-work, psychological well-being, HRM project management
- Extending one’s international network, and working with people from different nationalities and cultures
- Learning how to develop one’s knowledge and skill set as a future professional
- Professionalization: program in collaboration with IHRM professionals, internships of four to six months
- Classes taught by French and international researchers and practitioners, all experts in social innovations, project and human resources management
- Courses designed to develop students’ learning and project abilities: students learn how to acquire further knowledge as future professionals
- Small group dynamics: case studies, role-play, supervised projects and management problem solving.

**LEVEL OBTAINED** Master 2  
**DURATION** 1 year  
**APPLICATION DEADLINE** March 30th  
**TUITION FEES** 6990 €  
**REQUIREMENTS** In order to apply, students should hold 4-year Bachelor’s, or a Master 1 or Master 2 or a 4 or 5-year business school diploma. Holders of a 3-year Bachelor’s Degree are not eligible to apply.  
**ENGLISH PROFICIENCY**  
The language test in English is not mandatory if the candidate is a Native English speaker or studied in English at University level. Non-English native speakers must submit official international scores of one of the following tests:  
IELTS: overall band score of 6 or  
TOEFL: 550 paper test (100 IBT score)  
TOEIC: 750 or over  

**INFORMATION & CONTACT**
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igr.international-degree@univ-rennes1.fr  
**Website**

English-taught degrees at Université de Rennes 1
Semester 1

- International Human Resources Management
- Organization Theory & Human Resources Management
- European Economic & Social Environment
- Negotiation & Employee Relations in Europe
- Communication 3.0
- Cross-Cultural Management
- Research Methodology
- French as a foreign language

Semester 2

- Workplace Quality of Life
- Innovation & Project Management
- Psychosocial Risks & Change Management
- Compensation & Benefit Management
- Talent Management and Mobility
- Digital Management and e-HRM
- Personal Development, Internship & Professional Project
- French as a foreign language

AND AFTER?

The programme is designed for students who wish to pursue an international HRM career in a global context and with a digital edge.

The Master aims to train managers to develop human resource projects in a multicultural context — in France and/or abroad — for small and medium-sized import/export companies or major international groups.
OBJECTIVES

The Master in International Management launched in September 2008 by the University of Rennes1’s Graduate School of Management (IGR-IAE Rennes) is specifically aimed at English-speaking students with a Bachelor’s degree in economics or management, as well as graduates with a background other than management (engineering, chemistry, health, humanities and social sciences). Focused on international management issues, the program will help students understand the main steps in the globalization of companies, with a particular emphasis on the interdependence of strategic, cultural, commercial, legal, financial and managerial issues.

PROGRAM HIGHLIGHTS

The specificity of the program is to combine intensive French language courses with a comprehensive academic program in International Management. As the class size is limited, the courses are very interactive and all faculty members are accessible to students. This customized program equips students with the essential skills they need to pursue a career as an International Business Executive. Whether you want to improve your career opportunities in your area of expertise or make a career transition, we offer specific support throughout the program that will help you achieve your goals. As an International Management student at IGR-IAE Rennes, you will expand your cultural understanding, develop your professional skills, strengthen your French language skills, collaborate with students from around the world, and gain real-world experience.

LEVEL OBTAINED Master 2
DURATION 1 year
APPLICATION DEADLINE May 30th
TUITION FEES 6990 €

REQUIREMENTS

Students should hold a 4-year Bachelor’s, or a Master 1 or Master 2 or a 4 or 5-year business school diploma. Holders of a 3-year Bachelor’s Degree are not eligible to apply.

ENGLISH PROFICIENCY

The language test in English is not mandatory if the candidate is a Native English speaker or studied in English at University level. Non-English native speakers must submit official international scores of one of the following tests: IELTS: overall band score of 6 or TOEFL: 550 paper test (100 IBT score) TOEIC: 750 or over

INFORMATION & CONTACT

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igr.international-degree@univ-rennes1.fr

Website

English-taught degrees at Université de Rennes 1
Semester 1

• Strategy & innovation
• Project management
• Human Resources Management
• Marketing
• Finance and accounting
• French as a foreign language

Semester 2

• International Financial and Fiscal Management
• Industry and Logistics
• Internationalization & Management
• Management Game
• Internship with report
• French as a foreign language

AND AFTER?

The Master of Business Administration in International Management targets students without prior background in management. Therefore the positions held by our graduates are extremely diversified (business developer, international project manager, international marketing, international logistics, etc.).
Located on the central campus of University of Rennes 1, IGR-IAE (Institut de Gestion de Rennes - Institut d’Administration des entreprises) is a Graduate Business School that counts 3 degrees entirely taught in English, as well as an Alumni association and a Foundation that foster professional integration and student entrepreneurship on an international level.
BACHELOR IN BUSINESS AND APPLIED ECONOMICS

OBJECTIVES

The Bachelor Program in Business and Applied Economics is a two-semester program. It is entirely taught in English in small group classes. The lectures cover a broad range of topics in Economics: microeconomics, macroeconomics, applied, public, international and business economics... Students will also get the opportunity to learn and use the Bloomberg database and take the Bloomberg certificate (BMC).

Courses are taught by senior lecturers from the Faculty of Economics. To enhance your immersion in France, students will also be offered the opportunity to study French as a foreign language. Depending on your proficiency, you may consider taking different courses: beginner, elementary, intermediate or advanced courses.

Students need to earn 60 ECTS (European Credit Transfer System) credits. Study plans are very flexible. The only condition to validate a Bachelor in Business and Applied Economics is that you need to earn at least 75% of total credits (40 credits) with economic courses. Remaining credits can mix French courses, English courses, sport or other economic courses.

LEVEL OBTAINED Bachelor
DURATION 1 year
APPLICATION DEADLINE May 30th
TUITION FEES 4500 €

REQUIREMENTS

At least 2 years of undergraduate studies in Economics or General Management. Admission is based on the academic records of the student's last three years of study

ENGLISH PROFICIENCY
Non-English native speakers must submit official international scores of one of the major tests, certifying a B2 level in English.
IELTS: 6
TOEIC: greater than 750
TOEFL: greater than 80

INFORMATION & CONTACT

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Website

English-taught degrees at Université de Rennes 1
Semester 1

- Industrial Organization
- Statistics
- Public Economics
- Macroeconomic Policies
- International Economics
- Sport
- French as a Foreign Language 1
- Business English 1

Semester 2

- Economic Growth
- Risk and Uncertainty
- Econometrics
- Transport and Logistics
- Innovation and Digital Networks
- International Trade
- Business intelligence using the Bloomberg database
- Business simulation
- European Economics
- Business English 2
- French as a Foreign Language 2
- Sport

AND AFTER?

To help students making the most of their studies abroad, the European Commission has developed a European Credit Transfer System, (ECTS), which provides a way of measuring and transferring learning achievements from one university to another. One year of study in the European Union corresponds to 60 ECTS.

With this program, you earn a Bachelor degree in one academic year. This will allow you to carry on a Master’s degree in France or in any European country.
INTERNATIONAL MASTER IN PUBLIC FINANCE

OBJECTIVES

Offered by the Faculty of Economics of the University of Rennes 1, this 2nd year master level program teaches students the various activities of governments – expenditure policies, tax instruments, macroeconomic and regulatory policies – in an evolutionary, comparative, international perspective.

The IMPF offers double-degrees with 6 partner universities (Friburg, Switzerland, Tampere, Finland, Piemonte Orientale and Turin, Italy, Masaryk, Czech Republic and Mino, Portugal). The program also welcomes students from several Asian partner universities and institutions as well as individual applications from all over the world.

INTERNSHIP AND MASTER THESIS

During their training, IMPF students must complete either an Internship or a Master thesis.

**Internship:** the internship should last at least 4 months, from April, 1st to September 30th. The topic should be related to the production or supervision of economic and statistical studies in the field of public policies (in federal, national, regional or local governments, public services, or research centers).

**Master thesis:** the choice of the topic is made with the help of professors before the end of December. The topics are usually related to the subject matters of the courses. Students can choose to spend one or two semesters in a partner university.

LEVEL OBTAINED: Master
DURATION: 1 year
APPLICATION DEADLINE: May 14th
TUITION FEES:
- National fees*: 243 € per year for european students and students from partner universities,
- 950 € per year for non-european students

REQUIREMENTS

A 4-year degree in Finance

ENGLISH PROFICIENCY

Non-English native speakers must submit official international scores of one of the major tests, certifying a B2 level in English.

- IELTS: 6
- TOEIC: greater than 750
- TOEFL: greater than 80

INFORMATION & CONTACT

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Website

* 243 € per year for european students and students from partner universities,
**Semester 1**

- Quantitative methods
- Policy evaluation
- Comparative Welfare Programme I
- Comparative Public Policies I
- Comparative Tax Policies I
- Structure of Governments I
- Macroeconomics Policies I

**Semester 2**

- Advanced Econometrics
- Comparative Welfare Programme II
- Comparative Public Policies II
- Comparative Tax Policies II
- Structure of Governments II
- Macroeconomics Policies II

+ Internship or Thesis

**AND AFTER?**

Graduates from the IMPF will be active and dynamic players in processes of management and reform of public sector activities and agencies, in a plurality of institutional contexts and countries.

They can be typically employed in:

- **International organisations (EU, IMF, OECD, etc.)**
- **National administrations at the central and local levels**
- **Banks and financial institutions, especially in the assessment of country specific risks and policy evaluation**
- **Nonprofit organizations and think-tanks**
HOW TO APPLY?

• IF YOU ARE STUDENT FROM THE EU:

The admission procedure in order to apply to a Bachelor (except 1st year) or Master program is the same as for French students. You must contact the person in charge of the study program or the International Relations Office of the program department that will give you the informations on how to proceed. You can also write to dari-entrant@univ-rennes1.fr

• IF YOU ARE AN INTERNATIONAL STUDENT:

1) YOU RESIDE IN ONE OF THE COUNTRIES CONCERNED BY THE "ETUDES EN FRANCE"

The application is made online, on the Etudes en France website.

Algeria, Argentina, Benin, Brazil, Burkina Faso, Burundi, Cameroon, Chad, Chile, China, Colombia, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Gabon, Guinea, Haiti, India, Indonesia, Iran, Japan, Kuwait, Lebanon, Madagascar, Mali, Mauritania, Mauritius, Mexico, Morocco, Niger, Nigeria, Peru, Russia, Saudi Arabia, Senegal, Singapore, South Korea, Taiwan, Togo, Tunisia, Turkey, United States, Vietnam.
2) **YOU ARE AN INTERNATIONAL STUDENT AND DO NOT RESIDE IN ONE OF THE COUNTRIES IN THE ABOVE LIST:**

Application has to be made directly on our Application portals. There are **two different portals** to apply.

If you want to apply to the following masters:

- Master in International Human Resources Project Management
- Master of Business Administration and International Management
- Master in Finance, Advanced Studies and Research in Finance
- Master IT Mathematics and Cryptography
- Master of Cybersecurity
- Bachelor in Business & Applied Economics
- International Master in Public Finance

Go to this portal:
For all the other ones, apply on this portal:

CANDIDATURES

If your application is accepted, you will receive a document confirming your admission. From that point on, you will be able to undertake the procedures with the French Consulate in your country of residence to obtain a visa. Request a student visa if your admission involves a Bachelor’s or Master’s level programme; request a talent passport visa if it involves enrolment in a Doctorate programme.

INFORMATION ABOUT ADMISSION PROCEDURES AND VISAS

You can find out more information about applying to a study program in France on Campus France website, or on the CMI (Centre for International Mobility) website, our helpdesk dedicated to international students in Rennes.
Looking forward to seeing you in Rennes!

international.univ-rennes1.fr
INFORMATION & CONTACTS

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