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### DEGREES in **BUSINESS, ECONOMICS** and **MANAGEMENT**

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Université de 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.

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

Rennes is a safe, lively student city, ideal for international students. It currently holds the 4th 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 THE CAMPUS

AREAS OF EXPERTISE:

15 INTERNATIONAL RESEARCH LABORATORIES

DIGITAL
ENVIRONMENT

BIOLOGY-HEALTH
MATERIAL SCIENCES

LAW-POLITICAL SCIENCES
ECONOMICS-MANAGEMENT

English-taught degrees at Université de Rennes 1
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, Japon). 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
DURATION 1 or 2 years
APPLICATION DEADLINE April 1st
TUITION FEES
National fees*

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

beatrice.mahi@univ-rennes1.fr
christophe.darcel@univ-rennes1.fr

* 243 € per year for european students, 3770 € per year for non-european students
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
ECOLOGY

Associated with Université de Rennes 1, OSUR (Earth Science and Astronomy Observatory) facilitates and coordinates environmental research, working with 6 laboratories in this field in the scientific center of Rennes.
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 EFECE 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 at https://osur.univ-rennes1.fr/EFCE

LINKS WITH RESEARCH

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

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

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andreas.prinzing@univ-rennes1.fr
manuel.plantegenest@agrocampus-ouest.fr

LEVEL OBTAINED: Master

DURATION 1 or 2 years
1st year: 40% of Teaching Units in English and 60% in French
2nd year fully taught in English

APPLICATION DEADLINE
June 7th

TUITION FEES
243 € for European students, 3770 € per year for international students

* 243 € per year for european students, 3770 € per year for non-european students
Semester 1:
(60% of TU in french, 40% of TU in english)

• Communautés et structure des écosystèmes
• Projet
• Initiation aux systèmes d’information géographique
• Outils statistiques en écologie
• Dynamique de populations et coexistence d’espèces
• Ecologie comportementale et évolutive

UE to choose (out of the 3 following options):
Introduction à la modélisation/Analyses spatiales en écologie/Python pour les écologistes

Semester 2:

• Outils de communication en environnement
• Modélisation en écologie-évolution
• Outils modernes en écologie
• English
• Internship
• TU to choose (out of the 4 following options):
Ecologie des stress/ Ecologie du paysage/ Ecologie aquatique/ Microorganismes et écosystèmes
• TU to choose (out of the 2 following options):
Evolution et dynamique du génome/ Advanced R for data analysis

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
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 (Université de 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.

* fees may vary depending on the country in which the programme is done. See the website https://www.imabee.eu/page/fees to learn more
AND AFTER?

These two master's degrees (Functional Behavioural Ecology and Evolution, and International Master’s degree IMABEE) 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 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.
MASTER ECOLOGY OF GLOBAL CHANGES

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.

LEVEL OBTAINED: Master
DURATION: 2 years
APPLICATION DEADLINE: Mid-may
TUITION FEES: 9000 euros / year
REQUIREMENTS
A good bachelor (Honors) or equivalent degree (4 years) in a related field
ENGLISH PROFICIENCY:
IELTS (6.0) / TOEFL (550 paper test) / TOEIC (750)
INFORMATION & CONTACT
david.renault@univ-rennes1.fr
claudia.wiegand@univ-rennes1.fr
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
**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.
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: Université de 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 the 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: 243 € for European students, 3770 € per year for international students
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

* 243 € per year for European students, 3770 € 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
- Monte-Carlo molecular simulation
- Experimental project

**Semester 2**

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 Université de 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 München, Institut Charles Gerhardt Montpellier, department of chemistry University of Torino, department of Physics Adam Mickiewicz University Poznan).

**LEVEL OBTAINED**: Master  
**DURATION**: 2 years  
**APPLICATION DEADLINE**  
February 10th for EU applicants  
March 15th for non-EU applicants  

**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

**Level obtained**: Master  
**Duration**: 2 years  
**Application deadline**:  
February 10th for EU applicants  
March 15th for non-EU applicants  

**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 agency, etc.) (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 (Université de Rennes 1, Université de Montpellier, Ludwig Maximilians Universität, Technische Universität München, Universita 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.
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.

LEVEL OBTAINED: Master

DURATION: 1 or 2 years

APPLICATION DEADLINE: April 1st

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:

clcinfos@irisa.fr
Located on the “Digital Hub of Rennes” Beaulieu campus the EIT Digital CLC 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**

**Common Core**

- Networks from Services to Protocols
- Big Data Storage & Processing Infrastructures

**Compulsory Courses**

- Operating Systems Distributed Systems
- Service Technologies
- Object-oriented Software Design
- Minor in Innovation & Entrepreneurship (20 ECTS)

**Elective Courses**

- Modeling for Performance Evaluation & Safety Analysis Parallel Programming
- Systems Security
- Operating Systems - Kernel Implementation
- Combinatorial Optimization & Related Algorithms

**YEAR 2 : Specialization**

**Compulsory courses**

- Smart City Services: From infrastructure to applications
- Advanced Cloud Infrastructures
- Scalable Network Infrastructures for Optimized Service Delivery
- Personal Project on Cloud & Network Infrastructure
- Innovation & Entrepreneurship Study

**Elective courses**

- Making Data Speak: Advanced Probabilistic Data Analysis & Modeling
- Advanced Wireless Networks: 5G & Beyond
- The Art of Domain-specific languages : Let’s Hack our own Languages
- Data Mining & Visualization

**AND AFTER?**

More and more companies take advantage of the benefits that cloud networking can provide, and the demand for cloud and network professionals is booming. According to a study conducted by Deloitte for the EU in 2016, 1.6 million jobs could be created and the formation of 303 000 new businesses, in particular SMEs, is expected. Graduates qualify for jobs in international and local organizations in both technical and business roles. Typical titles are:

Network designers, Network planners, ICT managers, Cloud CTO, Cloud Software Engineer, Lead software Developer, Cloud Service Broker, Cloud Alliance Manager, Cloud Infrastructure Architect, Business developer...
**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.

**LEVEL OBTAINED:** Master

**DURATION:** 2 years

**APPLICATION DEADLINE:** April 1st

**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**

clcinfos@irisa.fr
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
EIT Digital summer school, offered by EIT (4 ECTS)

YEAR 2: Specialization Software Security

List of courses (compulsory and elective)
• Software Security
• Vulnerabilities Studies
• Security of embedded cryptographic implementations
• Security Verification for Protocols
• Security for Web Applications
• Supervision for Security
• Innovation & Entrepreneurship Study

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
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 Rennes Bretagne Atlantique INRIA regional research center Lab-STICC (Laboratoire en sciences et techniques de l'information de la communication et de la connaissance)

Requirements:

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

More information about the courses HERE

LEVEL OBTAINED: Master
DURATION: 2 years
APPLICATION DEADLINE: April 1st
TUITION FEES: National fees*

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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* 243 € per year for European students, 3770 € per year for non-European students
DEGREES in BUSINESS, ECONOMICS & MANAGEMENT
MASTER OF MARKETING, FRANCHISING, RETAIL & SERVICE CHAINS

OBJECTIVES

The Master’s of Marketing – Franchising, Retail & Service Chains is specifically aimed at English-speaking students with a Bachelor’s degree in business (marketing, management...), economics or law. Courses cover complementary disciplines, such as marketing, management, human resources management, strategy, finance, law, etc.

This Master’s is part of the Center in Franchising, Retail & Service Chains whose mission consists in bringing students, researchers and professionals in franchising and retail & service chains together around issues concerning the sector and in generating synergies using a global approach (i.e. professions, disciplines and countries).

TIES WITH RESEARCH

The Master’s of Marketing – Franchising, Retail & Service Chains is specifically aimed at English-speaking students with a Bachelor’s degree in business (marketing, management...), economics or law. Courses cover complementary disciplines, such as marketing, management, human resources management, strategy, finance, law, etc.

This Master’s is part of the Center in Franchising, Retail & Service Chains whose mission consists in bringing students, researchers and professionals in franchising and retail & service chains together around issues concerning the sector and in generating synergies using a global approach (i.e. professions, disciplines and countries).

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

REQUIREMENTS

4-year Bachelor’s degree in business (marketing, management...), Economics or Law

ENGLISH PROFICIENCY :

A language test in English is not mandatory for native English speaker or applicants who studied in English at University level. Non-English native speakers must submit official international scores of one of the major tests, certifying a B2 level in English. Please check specifics on the program website

INFORMATION & CONTACT

rozenn.perrigot@univ-rennes1.fr
igr.international-degree@univ-rennes1.fr

English-taught degrees at Université de Rennes 1
Semester 1:

- Organizational forms & chains
- Management & chains
- Development & chains
- Marketing & chains
- Engineering & chains
- Internationalization & chains

Semester 2:

- Control and performance & chains
- Law & chains
- Innovation and new trends in franchising, retail & service chains
- Master dissertation
- Internship

AND AFTER?

The Master's in Marketing – Franchising, Retail & Service Chains is specifically made for future managers and executives in national and international chains, in retail, service and social sectors, and more specifically in the following areas:

- Chain management (on-field consulting, franchisee training, sales event management...), chain development (franchisee recruitment, store location, real estate prospecting, franchise concept promotion...),
- Chain marketing (brand marketing, merchandising, external and internal communication, community management...)
- Chain engineering (franchise consultant, franchising project management...),
- chain entrepreneurship (franchisee, independent associated retailer, partner, franchisor...), international franchising (global expansion manager, international retail director, master franchisee...), business unit management (store manager, service unit manager, district manager...), etc.
OBJECTIVES

The Advanced Studies and Research in Finance program is a one-year 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 attending the CFA track benefit from a two-week intensive preparation course to the CFA® exam taught by specialized instructors.

TIES 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
DURATION: 1 year
APPLICATION DEADLINE: April 31st
TUITION FEES: 6990 euros

REQUIREMENTS

4-year Bachelor’s degree in Finance

ENGLISH PROFICIENCY:

A language test in English is not mandatory for native English speaker or applicants who studied in English at University level. Non-English native speakers must submit official international scores of one of the major tests, certifying a B2 level in English. Please check specifics on the programme website.

INFORMATION & CONTACT

nadia.saghi@univ-rennes1.fr
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Semester 1:

• Recent Advances in portfolio, fixed income & option theories
• Recent Advances in corporate finance theory
• Recent Advances in banking finance
• Quantitative techniques & data management
• Recent advances in financial markets & corporate finance theories

Semester 2:

• Financial Accounting & Reporting
• Recent Advances in Financial Engineering
• Preparation to CFA
• Preparation to empirical research
• Internship

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 to lead a HR project within an international context dealing with change management.

The program is structured around three areas of expertise: (1) Innovation (social, technological, educational); (2) leadership, individual & collective skills and (3) HR processes (talent or mobility management; digital management; compensation & benefits; workplace quality of life; diversity etc.). Students take part in HRM project management - in an international context of employability - 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.

TIES 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

DURATION: 1 year

APPLICATION DEADLINE: April 31st

TUITION FEES: 6990 euros

REQUIREMENTS

4-year Bachelor’s degree in Management, Psychology, Sociology, Law, Economics, or in a related field of study

ENGLISH PROFICIENCY:

A language test in English is not mandatory for native English speaker or applicants who studied in English at University level. Non-English native speakers must submit official international scores of one of the major tests, certifying a B2 level in English. Please check specifics on the programme website

INFORMATION & CONTACT

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**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

**Semester 2:**
- Workplace Quality of Life
- Innovation & Project Management
- Psychosocial Risks & Change Management
- Compensation & Benefit Management
- Talent Management
- Mobility Management
- Personal Development, Internship & Professional Project

**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

This program aims to provide students with the essential skills necessary to pursue a career as an International Business Executive. The Master’s program develops students’ capabilities to succeed in a dynamic global business environment within international companies. Tailor-made for future managers, the program arms students with a panorama of up-to-date and indispensable «hard» and «soft» skills in International Management, which will help them incorporate the main steps of the companies’ internationalization, by emphasizing on the interdependence of strategic, cultural, commercial, legal, financial and managerial issues.

The specificity of the program is to combine intensive French language courses with a comprehensive academic program in Management taught exclusively in English.

LEVEL OBTAINED: Master

DURATION: 1 year

APPLICATION DEADLINE: April 31st

TUITION FEES: 6990 euros

REQUIREMENTS

A bachelor (Honors) or equivalent degree (4 years) in any field. The program is designed for students from different areas, including non-specialists in business.

ENGLISH PROFICIENCY:

A language test in English is not mandatory for native English speaker or applicants who studied in English at University level. Non-English native speakers must submit official international scores of one of the major tests, certifying a B2 level in English. Please check specifics on the program website.

INFORMATION & CONTACT

laura.sabbado-da-rosa@univ-rennes1.fr
igr.international-degree@univ-rennes1.fr
Semester 1:
- Innovation
- Legal & Fiscal Management
- Human Resources Management
- Strategy
- Marketing
- Industrial & Logistics Management
- Financial Management

Semester 2:
- Management Control
- International Finance
- Legal & Fiscal Framework
- Internationalization & Management - 5 PARTS
- Intercultural Management
- Management Game
- Internship with report

AND AFTER?

Students build a professional career path related to the international development of companies (business developer, international project manager, international marketing, international logistics, etc.).
Located on the central campus of Université de Rennes 1, IGR-IAE (Institut de Gestion de Rennes - Institut d’Administration des entreprises) is a Graduate Business School that counts 4 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 & 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 31st
TUITION FEES: 4500 euros

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
eco-bachelor@univ-rennes1.fr
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*

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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* 243 € per year for european students
3770 € per year for non-european students
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 Université de Rennes 1 that will give you the informations on how to proceed.

• IF YOU ARE AN INTERNATIONAL STUDENT :

1) YOU RESIDE IN ONE OF THE COUNTRIES CONCERNED BY THE "ETUDES EN FRANCE" (Studying in France) procedure must make a specific request for enrolment in an institute of higher education. The application is made online, on the Etudes en France website.

Algeria, Argentina, Benin, Brazil, Burkina Faso, Burundi Cameroon, Chile, China, Colombia, Comoros, Republic of Congo, South Korea, Djibouti, Ivory Coast, Egypt, United States, Gabon, Guinea, Haïti, India, Indonesia, Iran, Japan, Kuwait, Lebanon, Madagascar, Mali, Morocco, Mauritius, Mauritania, Mexico, Nigeria, Peru, Senegal, Democratic Republic of Congo, Russia, Senegal, Singapore, Taiwan, Togo, Tunisia, Turkey and 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 portal: [https://applying.univ-rennes1.fr/#!accueilView](https://applying.univ-rennes1.fr/#!accueilView)

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](https://www.campusfrance.org), or on the [CMI (Centre for International Mobility) website](https://cmi-rennes.fr), our helpdesk dedicated to international students in Rennes.
LOOKING FORWARD
TO SEEING YOU IN
RENNES!

international.univ-rennes1.fr
INFORMATION & CONTACT:

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