IDEXLYON CERTIFIED MASTER'S PROGRAMS

UNIVERSITÉ DE LYON
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www.universite-lyon.fr
www.idexlyon.universite-lyon.fr
IDEXLYON CERTIFIED MASTER'S PROGRAMS


The Lyon Saint-Étienne site offers a huge variety of programs (university technical diplomas, Master’s degrees, engineering degrees, PhDs, etc.) in all scientific fields (human and social sciences, life and health sciences and hard sciences). These training programs are provided by the universities, higher education institutions and institutes that form the Université de Lyon.

IDEXLYON-labelled Master’s courses strengthen the excellence of the Université de Lyon and fall within its three major academic axes: Humanities and Urbanity, Science and Engineering and Bio-health and Society.

Students are put in contact with leading experts in the academic and professional sectors, such as professors, researchers and professionals, to ensure quality and multidisciplinarity. As such, some courses are provided in English. Students do professional internships abroad and benefit from strategic partnerships with companies, laboratories and other research structures and networks.

The Université de Lyon also offers grants for students from foreign nationality wishing to join one of the 19 IDEXLYON* certified Master’s programs.

THE UNIVERSITE DE LYON

The Université de Lyon is a world-class academic site of excellence and represents over 140,000 students, 20,000 of whom are international students. The Université de Lyon, which is structured around 12 member institutions and several associated institutions, has 6,800 researchers and researcher lecturers and 172 laboratories. Awarded the IDEX label in 2017, it is located at the heart of the Auvergne-Rhône-Alpes region, in Lyon & Saint-Étienne.

* Applications for the scholarship are to be sent to the person in charge of the Master’s program.

THE UNIVERSITE DE LYON OFFERS YOU A CATALOG OF 19 CERTIFIED MASTER'S PROGRAMS:

- Master’s in Biology
- Master’s in Cancer studies
- Master’s in Nanoscale engineering
- Master’s in Physics & Chemistry
- Master’s in Fundamental infectiology
- Master’s in AlterEurope
- Master’s in Cities and Urban Environments (VEU)-Altervilles
- Master’s in International Acoustics
- Master’s in Economic Analysis and Policy
- Master’s in Biodiversity, Ecology and Evolution (BEE@LYON)
- Master’s in The fundamentals of computer science
- Master’s in Advanced Mathematics
- Master’s in Medieval worlds (MC2M)
- Master’s in Management, Conservation and Rehabilitation of Mixed Modern Tangible and Intangible Heritage (METIS)
- Master’s in International Machine Learning and Data Mining (MLDM)
- Master’s in Ancient worlds
- Master’s in Earth science, planets and environments
- Master’s in Optics, Images, Vision and Multimedia
- Master’s in Water science, COGEVAL’EAU and IREMIR course
GOAL
The Master’s in Ancient Worlds offers multidisciplinary training in the sciences of Antiquity. It provides students with sound knowledge in a specialized field (archeology, ancient history or languages, literature and ancient civilizations) while introducing the fundamentals of other Ancient World disciplines and developing their ability to tackle cross-disciplinary issues related to Antiquity.

CURRICULUM
The Master’s in Ancient Worlds offers three different tracks:

- Archeology;
- Ancient History;
- Languages, Literature and Ancient Civilizations (LLCA).

A multidisciplinary program
In the first semester of the Master’s program, students from all three tracks gain a common knowledge base and skill set, with complementary courses in languages, literature, history and archeology of ancient worlds. A cross-disciplinary, thematic and methodological seminar applies a multidisciplinary approach, with several specialists lecturing on the same study topic. After completing any track of the Master’s program, students will be knowledgeable in the major periods, phases, civilizations and chrono-cultural areas of Antiquity and will be familiar with all of the disciplines involved in the study of ancient worlds.

Discipline-specific training
Each semester, students will take one discipline-specific course unit (between 3 and 5 classes per semester), which will consolidate their knowledge in their specialized field. In the first and second years of the Master’s program, each student will write a research dissertation in their specialized field. The training program will include a professional internship of 3 weeks or more.
MASTER’S IN ANCIENT WORLDS

TEACHING LANGUAGE
Most classes are taught in French.

PREREQUISITES FOR ADMISSION
First-year Master’s Program: Applicants must have a graduate degree (licence in France or an equivalent degree for applicants who studied abroad).

Second-year Master’s Program: Applicants must have completed the first year of a Master’s program (or an equivalent academic level for applicants who studied abroad).

For information about the conditions for enrollment and continuing education, contact the institution’s Master’s program director.

COST OF THE TRAINING PROGRAM
University registration fee

APPLICATION
Ancient Worlds Master’s students may be enrolled in the Université Lumière Lyon 2, the Université Jean Moulin Lyon 3 or the ENS de Lyon. Read the conditions and schedule for application for your chosen institution.

NUMBER OF GRADUATES
Between 30 and 40 per year

COORDINATORS
Bénédicte Delignon
Coordinator of the Ancient Worlds Master’s and program director for the ENS de Lyon
Gilles van Heems
Assistant coordinator of the Ancient Worlds Master’s program and program director for the Université Lumière Lyon 2
Marie Ledentu
Program director for the Université Jean Moulin Lyon 3

UNIVERSITIES / INSTITUTIONS
CO-CERTIFYING THE PROGRAM
Université Lumière Lyon 2,
Université Jean Moulin Lyon 3,
ENS de Lyon.

CONTACT INFORMATION
Correo bénédicte.delignon@ens-lyon.fr

WEBSITE
bit.ly/mondesanciens
GOAL
The Master’s in Physics and Chemistry provides general training of excellence, enabling students to explore high-level disciplinary fields in physics and/or chemistry with true innovation potential. This study program is a springboard towards a range of professions in research and higher education.

CURRICULUM

First year Master’s
The major focuses on the spectrum of physics and chemistry as a whole, leaving real possibilities of continued studies in the various research areas within these disciplines. The second semester provides a large range of options and a 3-month research internship, as well as many possible personalized courses (“physics-chemistry-biology” course, long internship, semester abroad).
With an additional year between the first and second year of the Master’s program, students can receive a double diploma in science and engineering with the Politecnico di Milano (Italy), the EPFL (Switzerland) or the École Centrale de Lyon.

Second year Master’s
A year of specialization, including a research internship of 16 weeks or longer in France or abroad, with 4 different tracks:
• Chemistry concepts and applications;
• Physics concepts and applications;
• Complex systems (open to other disciplines such as computer science, biology and mathematics);
• Digital modeling (with a close link between the fundamental concepts of physics and chemistry and digital modeling).
TEACHING LANGUAGE
Classes and tutorials are given in French or English depending on the student’s wishes.

PREREQUISITES FOR ADMISSION
Admission based on academic record with solid educational background in physics and/or chemistry.

First-year Master’s Program (M1): Having completed the third year of a degree program in physics or chemistry.

Second-year Master’s Program (M2): Having completed the first year of a Master’s program in physics or chemistry.

COST OF THE TRAINING PROGRAM
University registration fee

APPLICATION
See website

NUMBER OF GRADUATES
About 70 per year

COORDINATORS
Cendrine Moskalenko, ENS de Lyon:
  cendrine.moskalenko@ens-lyon.fr

Natalia Del Fatti, UCBL Lyon 1:
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UNIVERSITIES/INSTITUTIONS
ENS de Lyon,
Université Claude Bernard Lyon 1

CONTACT INFORMATION
📞 +33 (0) 4 72 72 83 87
✉ contact@sciencesdelamatiere.fr

WEBSITE
www.ens-lyon.fr/masterSDM
GOAL

The BEE@Lyon Master's degree aims to train students in areas of fundamental and applied ecology (conservation and management of natural and man-made spaces) and evolutionary genomics. Major current issues in science and future challenges facing these two fields are presented to students using an interdisciplinary approach with input from researchers, research professors and environmental professionals.

CURRICULUM

First year Master's
The first semester is dedicated to building a solid foundation in the concepts and methods in the fields of ecology and evolutionary biology. In the second semester, students specialize, choosing between several discipline-specific course units, ranging from functional ecology to evolutionary genomics, and they complete an introductory research internship (8 weeks).

Two tracks are offered in the second year: Ecology, Evolution, Genomics (EEG) and Ecosystem Bioevaluation and Appraisal of Biodiversity (BEEB).

Second-year Master's
The EEG track aims to train specialists in the field of ecology and evolutionary biology by and for research. After the program, students will have gained conceptual and experimental mastery of the mechanisms and processes involved in ecology and evolution. The BEEB track aims to train engineers or researchers (R&D) specialized in the management of natural or anthropogenic spaces and the conservation of biodiversity. In particular, students will master the implementation of European directives, using a multidisciplinary approach combining ecological sciences and human sciences. In both tracks, the second semester involves a long professional internship (5-6 months).
TEACHING LANGUAGE
Classes and tutorials are given in French (70%) or English (30%), depending on course units. Teaching in English will become increasingly available in coming years.

PREREQUISITES FOR ADMISSION
Master’s program candidates are selected based on their academic record, a cover letter and a presentation of the applicants’ professional aspirations. The program is open to students with a degree or equivalent in the field of Ecology or Diversity Sciences.

COST OF THE TRAINING PROGRAM
University registration fee

APPLICATION
Deadline and conditions for enrollment: see website

NUMBER OF GRADUATES
About 50 per year

COORDINATORS
Major: Prof. C Vieira-Heddi
   cristina.vieira@univ-lyon1.fr
First-year Master’s: Dr JP Léna
   jean-paul.lena@univ-lyon1.fr
EEG second year Master’s: Prof. E Desouhant
   emmanuel.desouhant@univ-lyon1.fr
BEEB second-year Master’s: Prof. S Dolédec
   sylvain.doledec@univ-lyon1.fr

UNIVERSITIES / INSTITUTIONS
CO-CERTIFYING THE PROGRAM
Université Claude Bernard Lyon 1
VetAgroSup and partnership with the INSA Lyon.

CONTACT INFORMATION
📞 +33 (0) 4 72 43 12 79
✉️ bee@univ-lyon1.fr

WEBSITE
https://www.bee-lyon-univ.fr/
GOAL
The Master's in Machine Learning and Data Mining (MLDM) is an international Master's program taught entirely in English, which trains specialists over two years in machine learning and data mining. It prepares students for an academic career or an activity in the R&D centers of large groups that require expertise in data science.

CURRICULUM
Students in the MLDM program will earn 120 ECTS over a two-year period, divided into four semesters. It provides students with the opportunity to complete two internships in research laboratories or companies: one internship of at least 3 months during the first year, and an internship of at least 4 months during the second year (master's thesis). Students may spend the third semester abroad, thanks to selected partnerships with the KU Leuven (Belgium), Leiden (Netherlands), Freiburg (Germany), Turin (Italy), Vienna (Austria).

As such, the MLDM program has an original scientific position at European level to deal with issues related to decision-making support, data mining, big data, modeling, classification, etc. The MLDM program is supported by a team of professors from the Hubert Curien Laboratory – UMR CNRS 5516 of international renown in the field of Machine Learning et Data Mining.
INTERNATIONAL MASTER’S IN MACHINE LEARNING AND DATA MINING

TEACHING LANGUAGE
All classes are taught in English.

PREREQUISITES FOR ADMISSION
Admission based on academic transcripts following a Bachelor of Science (or equivalent degree) in Computer Science, Mathematics or Statistics.

LIST OF TEACHING UNITS

**First semester (30 ECTS)**
- Advanced Algorithmics
- Calculability and Complexity Theory
- Introduction to Machine Learning
- Data Analysis
- Research Methodology
- Introduction to Artificial Intelligence
- Foreign Language

**Second semester (30 ECTS)**
- Data Mining and Knowledge Discovery
- Machine Learning – Fundamentals and Algorithms
- Computer Vision
- Computer Networks and Security
- Optimization & Operational Research
- End of year project/Internship

**Third semester (30 ECTS)**
- Advanced Machine Learning
- Data Mining for Big Data
- Deep Learning and Applications
- Machine Learning and Data Mining Project
- Semantic Web
- Multi Agent Systems

**Fourth semester (30 ECTS)**
- Master Thesis – Internship from early February to late June

COST OF THE TRAINING PROGRAM
- 750 euros for the first year of the Master’s (including national fees)
- 500 euros for the second year of the Master’s (including national fees)

APPLICATION
Apply via the following website:

NUMBER OF GRADUATES
Approximately 25 to 30 per year

COORDINATORS
Marc SEBBAN and Amaury HABRARD
marc.sebban@univ-st-etienne.fr
amaury.habrard@univ-st-etienne.fr

UNIVERSITIES / INSTITUTIONS CO-CERTIFYING THE PROGRAM
The Computer Science Master’s program is co-authorized by the Université Jean Monnet, the Université Claude Bernard Lyon 1, the Université Lumière Lyon 2, the ENS de Lyon, the École Centrale de Lyon, and Mines Saint-Étienne.

CONTACT INFORMATION
+33 (0)4 77 91 57 30
master.MLM@univ-st-etienne.fr

WEBSITE
http://mldm.univ-st-etienne.fr/
GOAL
Promoting interdisciplinary studies between medieval history, archaeology and literature, and between these fields and anthropology, sociology and law. Developing comparative research between medieval Christian and Islamic worlds, from the end of antiquity to the beginning of the early modern period. Providing training in research methodology and a solid technical foundation in archaeology, analysis of medieval texts and images, and digital humanities.

CURRICULUM
First year
The first semester focuses on introducing historical research, archaeology and literature of the medieval Christian and Islamic worlds, as well as an introduction to technical and digital methods for analysing medieval sources (material sources include the environment, physical sites, man-made structures, furnitures, archival documents, manuscripts, images, seals, and money).

In the second semester, training shifts to a great variety of research seminars and practical workshops.

Second-year
Second year of the master is dedicated to deepening research methods and techniques, and to documenting research (written records, digital editions, databases, GIS), as well as developing, writing and defending a research thesis (approximately 100 page study plus annexes). This thesis consists of original research which demonstrates a mastery of historiography and primary sources applied to an innovative research question under the supervision of a research advisor from the university research center CIHAM, linked to the thematic strands of the research institute.

Under the HISTARMED program (at the Université Lumière Lyon 2, currently expanding to other partner universities), the master’s program allows students to spend one or two semesters abroad (currently Bologna, Warsaw and Granada) with the goal of obtaining a double diploma.
MASTER’S IN MEDIEVAL WORLDS

TEACHING LANGUAGE
Most of the training is given in French with some lectures and seminars in English, Italian and Spanish.

PREREQUISITES FOR ADMISSION
Prospective applicants are expected to have completed a degree related to the Master in Medieval Worlds and to have learned a modern language. The successful applicant will show genuine interest and curiosity in the themes and techniques of the program, as well as demonstrating an ability to dedicate themselves to completing the program.

Recommended qualifying undergraduate degrees (or equivalent): History, Art History, Archaeology, Humanities, Social Sciences, Human Sciences, Literature, Languages and Literature, LLCER (Foreign and Regional Languages, Literature, and Civilisations).
Certified B2-level French, according to the Common European Framework of Reference for Languages.

LIST OF SEMINARS AND RESEARCH WORKSHOPS
• Christians and Muslims in the Mediterranean Region
• Digital edition of texts
• Church and cultural practices in the Late Middle Ages
• History of medieval Italy
• History of religion, law and medieval institutions
• History of land in western medieval Europe
• History of government in western medieval Europe
• History and archeology of rural living in the Middle Ages
• Political and military history of the western medieval Europe
• Introduction to liturgy
• Literature and civilization of medieval Spain
• Medieval Literature
• Medicine, health and society
• Medieval history
• Societies and cultures of the Christian and Islamic medieval east
• Latin translation workshops: papal letters, writings of Agobard

COST OF THE TRAINING PROGRAM
Initial and continuous training: enrollment cost determined by each of the partner institutions.

APPLICATION
Download the application and return it to the partner institutions (see the home page of the Master’s program’s website). The Master’s program can be done as a dual program with the Digital Humanities major.

NUMBER OF GRADUATES
Between 20 and 30 per year

COORDINATORS
Cécile Caby
Coordinator of the Master’s program and program director at the Université Lumière Lyon 2
cecile.caby@univ-lyon2.fr

Xavier Hélary
Program director at the Université Jean Moulin Lyon 3
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Jacques Chiffoleau
EHSS Program Director
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Sylvain Gouguenheim
ENSL Program Director
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Laurent Ripart
Program Director at the Université Savoie Mont Blanc
laurent.ripart@univ-savoie.fr

UNIVERSITIES / INSTITUTIONS CO-CERTIFYING THE PROGRAM
Université Lumière Lyon 2, Université Jean Moulin Lyon 3, ENS de Lyon, École des Hautes Etudes en Sciences Sociales, Université de Savoie Mont Blanc

WEBSITE
www.mastermondesmedievaux.univ-lyon2.fr
GOAL
This international and interdisciplinary Master's program trains specialists in the conservation, management and development of heritage from the 20th to the 21st century. In a "mixed" approach combining technology and culture, modernity and memory, the program aims to look into scenarios where urban heritage is rehabilitated/redeveloped to bring territorial dynamics back to the forefront through a caring and sustainable approach.

CURRICULUM
The curriculum spans two years. The Master's uses innovative and immersive teaching methods. Classes are taught jointly by the Université Jean Monnet and the ENTPE. The approach is local as well as European and global. This track is backed by an international network of partners (higher education institutions, companies, cities, foundations) involved in the training program, internships and research.

First-year Master's
After spending the first semester on fundamental knowledge (concepts, sociohistoric issues, law, economics) and mastering specific skills in the management of cultural heritage, students will spend the second semester completing:
• A research project;
or
• A 4-6 month internship in France or with a foreign partner.

Second-year Master's
In the third semester, students will deepen their knowledge (public policies, international law, knowledge of target public) and their know-how (scenography, research engineering) along with a high degree of technical specialization in managing, diagnosing and developing the contemporary urban heritage. In the fourth semester, students will complete:
• A research project;
or
• A 4-6 month internship in France or with a foreign partner.
MASTER’S IN
MANAGEMENT, CONSERVATION AND REHABILITATION OF MIXED MODERN TANGIBLE
AND INTANGIBLE HERITAGE

TEACHING LANGUAGE
Most classes are primarily taught in French. Some of the classes are taught in
English.

PREREQUISITES FOR ADMISSION
For the first and second year of the Master’s program: students with a degree in
Human and Social Sciences, Heritage, Engineering, Environment, Architecture,
Political and Administrative science track. Students with an equivalent degree from a
foreign university (Bachelor’s). Applicants will be reviewed based on their academic
record.
The Master’s program is also open to non-French speaking students and
professionals who would like to update their knowledge through continuous training.

COST OF THE TRAINING PROGRAM
Initial training: university enrollment fees;
Continuous training: university enrollment fees + additional training fees (customized,
based on the background of each student).

APPLICATION
See website

NUMBER OF GRADUATES
About 40 per year

COORDINATORS
Prof. Robert Belot
Université Jean Monnet, Director of the
HCP Master’s and the Cultural Heritage
and Contexts Studies Department (Études
en Patrimoines et Paysages culturels)
Dr. Eng. HDR Richard Cantin
ENTPE, Université de Lyon, Co-director of
the METIS track

UNIVERSITIES/INSTITUTIONS
CO-CERTIFYING THE PROGRAM
Université Jean Monnet, ENTPE.

CONTACT INFORMATION
📞 +33 (0) 4 77 42 16 64
✉️ contact@masterpatrimoines.eu

WEBSITE
http://www.masterpatrimoines.eu/les-
master/master-hcp/

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GOAL
The Master’s in Biology aims to offer students high-level general training in biology, as well as in research and through research. Although general, this Master's allows students to specialize through a choice of program options, courses and laboratory internships.

CURRICULUM
The Master’s in Biology is a two-year program.

First-year Master’s Program
• 3 mandatory course units: English, biosciences and society, scientific communication.
• 5 course units with classes, tutorials and projects in various areas of biology, to be chosen from a selection of 12 course units.
• A research internship of 16 weeks or longer in a laboratory in France or abroad.

Second-year Master’s Program
• 2 mandatory course units: English and bibliographical analysis.
• One practical course unit to be chosen from a menu of 4 course units.
• 4 course units with lectures in English in various areas of biology, to be chosen from a selection of 9 course units.
• A research internship of 20 weeks or longer in a laboratory in France or abroad.
TEACHING LANGUAGE
Classes are taught in French in the first year of the Master’s program, and in English in the second year.

PREREQUISITES FOR ADMISSION
To enroll in the Master’s program, students must have solid foundations in biology, and understand both written and spoken English (level B2). An internship in a research laboratory is preferred.

LIST OF TEACHING UNITS

**First-year Master’s Program:**
- Adaptation, Development, Evolution
- Biology of development: new concepts and approaches
- Physical cell biology
- Normal and pathological cells
- Brain, development and plasticity
- Ecology of communities and ecosystems
- Epigenetics
- Molecular evolution, bioinformatics
- Population genetics and genomics
- History of life on Earth
- Molecular and structural microbiology
- Physiology of the immune response

**Second-year Master’s Program:**
- Practicals in imaging: from samples to quantification
- Practicals in next generation sequencing
- Practicals in statistics and modeling for biosciences
- Practicals in museum collections
- Advanced immunology and diseases
- Comparative genomics
- Energy homeostasis
- Evolutionary paleobiology
- Host and microbes
- Development and stem cells in plants and animals
- Molecular and supramolecular machines
- Systems neuroscience: from cell to cognition
- Trends in ecological research

COST OF THE TRAINING PROGRAM
University registration fee

APPLICATION
See website

NUMBER OF GRADUATES
54 maximum per academic year

COORDINATORS
Cyril Charles, Dominique Baas and Renaud Mahieux

UNIVERSITIES/INSTITUTIONS
CO-CERTIFYING THE PROGRAM
Université Claude Bernard Lyon 1, ENS de Lyon.

CONTACT INFORMATION
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✉️ master.biosciences@ens-lyon.fr

WEBSITE
biologie.ens-lyon.fr/masterbiosciences
GOAL

This Master’s degree aims to train future professionals in cancer research and engineering.

The Biology of Cancer (BC) track enables students to develop skills in the biological mechanisms of cancer. The IT track enables students to develop skills in clinical research and animal oncology. And finally, the 3.0 track enables students to develop skills in the ethical analysis and management of digital patient data.

CURRICULUM

The Master’s program offers three different tracks:
- Biology of cancer (BC);
- Therapeutic innovations in oncology (IT);
- Oncology 3.0: -omics approaches to individualized medicine (3.0).

First year Master’s
The first semester includes course units covering the biological mechanisms of cancer, immunology, biostatistics/bioinformatics, epidemiology, cancer models, clinical research. In the second semester, a flexible internship that enables students to go abroad for 6 months.

Second year BC Master’s
The third semester includes an internship worth 21 ECTS and a course unit worth 6 ECTS covering scientific news. During the fourth semester, an internship worth 24 ECTS.

Second year IT Master’s
The third semester includes an internship worth 21 ECTS and a course unit worth 6 ECTS covering clinical research. The fourth semester includes an academic or industrial internship worth 24 ECTS, and a course unit covering translational research in spontaneous cancers in animals.

Second year 3.0 Master’s
The third semester includes an omics and big data course unit, an ethics of big data course unit, a course unit covering the economic impact of big data, and a bibliographical research course unit. During the fourth semester, an internship worth 27 ECTS. The English course unit and optional course units are shared between the three tracks.
MASTER’S IN CANCER

TEACHING LANGUAGE
Classes are given in English and in French.

PREREQUISITES FOR ADMISSION
For the first year of the Master’s program, completion of a degree in Biology, Physiology, Biochemistry or Biotechnologies.
For the second year of the Master’s program, completion of the first year of a Master’s program or graduate studies in the field of Health, at VetAgro Sup or an engineering program.

LIST OF TEACHING UNITS
• Environmental factors and carcinogenesis
• Europe EU
• Patient-oriented cancer studies
• Metastases, migration and EMT
• Economics of health and cancer
• Targeted cancer destruction
• Innovation and industrial property
• Pharmaceutical company strategy & MED technologies
• Drug Delivery System
• Targeted therapy, cancer and small molecules
• Biostatistics/Bioinformatics
• Tissue & Cell Engineering

COST OF THE TRAINING PROGRAM
University registration fee

APPLICATION
See website

NUMBER OF GRADUATES
About 80 per year

COORDINATORS
Prof. Caroline Moyret-Lalle
Program director for the course and program director for the first year of the Master’s program

Prof. Agnès Bernet
Program director for the Biology of Cancer track

Prof. Charles Dumontet and Dr Hichem Mertani
Program directors for the Therapeutic Innovations in Oncology track

Dr Claire Bardel and Dr Nora Mounjïd
Program directors for the Oncology 3.0 track: -omics approaches to individualized medicine

UNIVERSITIES / INSTITUTIONS CO-CERTIFYING THE PROGRAM
Université Claude Bernard Lyon 1 and VetAgro Sup

CONTACT INFORMATION
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📧 carole.vernay@univ-lyon1.fr

WEBSITE
GOAL
Cities and Urban Environments (VEU) – Altervilles is a two-year undifferentiated Master’s program ("professional" and "research" specialty training), which aims to train professionals in general urban policies and strategies, who will then specialize in urban policy-making, project management, decision-making support, forecasting, evaluating and participation, as well as urban studies and research. It features two main specific goals:

- Training professionals with a high degree of urban culture who are able to develop a global vision of the urban and metropolitan phenomena and issues, and apply it to a variety of fields.
- Developing the training program using alternatives by making students aware of the variety of available situations, resources and policy options and methods, by studying both major cities and medium-sized cities, in particular declining cities.

CURRICULUM
First year Master’s program
Classes on the fundamentals of cities and urban policies (discipline-specific classes in all tracks of the VEU major), professional seminars, research seminars, study abroad and group projects (group projects to meet orders from local authorities, agencies, associations or companies).

Second year Master’s program
Professional topical workshops about urban alternatives, shared activities for the VEU major and long internship or academic mobility in a partner foreign university (second semester).
TEACHING LANGUAGE
Classes are taught in French and in English (at least two classes per semester).

PREREQUISITES FOR ADMISSION
For students with a degree in Human and Social Sciences (SHS) and international students, admission requires a review of the application (eligibility) and an interview (admission). Students from Sciences Po Lyon are admitted based on their selection of a specialization in the third year, or during the competitive examination for direct-enrollment applicants to the fourth year, within the limits of available places. Students from other IEPs may enroll in the second year of the VEU-Altervilles program and in the fifth year of an IEP through a "mutualization" [pooling] track.

In the second year of the Master’s program, students can select courses from the range of activities shared by all tracks of the VEU major.

COST OF THE TRAINING PROGRAM
University registration fee. Students also enrolled in the Sciences Po Lyon program must pay the enrollment fees of that institution. Specific provisions for enrollment as part of continuous training.

APPLICATION
Through the e-candidats platform (see the program's website)

NUMBER OF GRADUATES
About 24 per year

COORDINATORS
Aisling Healy
(UJM, MC Political Science)
Christelle Morel Journel
(UJM, MC Geography)

UNIVERSITIES / INSTITUTIONS
CO-CERTIFYING THE PROGRAM
Université Jean Monnet, in cooperation with Sciences Po Lyon.

CONTACT INFORMATION
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WEBSITE
http://altervilles.universite-lyon.fr/
GOAL
This demanding general training program enables students to enter the job market at the end of their Master’s degree in positions that utilize their solid foundations developed in quantitative economics (economic research departments in public or private and international or French institutions and regional authorities), as well as to successfully write their doctoral thesis on economics.

CURRICULUM
First year Master’s
The first year primarily involves foundation courses in microeconomics, macroeconomics, public policy, econometrics and data analysis.

The knowledge gained in these courses will be used in more field-specific courses that shed light on the great contemporary economic issues. At the end of the year, students complete an internship or a research dissertation.

Second year Master’s
The second year includes advanced classes in various fields of specialization (game theory, behavioral economics, finance, territorial analysis, strategic intelligence, economics and innovation management, data mining, etc.).

The organization of course units varies from track to track. Skills will be assessed through continuous assessment and a final examination, internships, dissertations and individual or group projects. The respective weighting of ECTS credits varies from track to track.

There are four fields of specialization:
- Economics Research Officer;
- Territorial Development Consultancy;
- Economics and Finance;
- Economic Intelligence and Innovation Management;
- Advanced Economics.
**First-year Master's Program (M1):** Most courses are taught in French (a few in English, except in the Advance Economics track which is taught in English).

**Second-year Master's Program (M2):** French and/or English depending on the chosen track (the Economics and Finance research track is taught exclusively in English).

**PREREQUISITES FOR ADMISSION**

**First-year Master’s Program:**
Admission with a diploma equivalent to 180 ECTS, including at least 24 ECTS in Economics and 6 ECTS in mathematics, statistics or econometrics, or equivalent professional experience. High levels of English and French proficiency are required, as well as genuine motivation.

**Second-year Master’s Program:**
Admission with a diploma equivalent to 240 ECTS, including at least 32 ECTS in Economics and 12 ECTS in mathematics, statistics or econometrics. A high level of English and French proficiency are required (except for the Economics and Finance track, which is entirely taught in English), as well as genuine motivation.

**COST OF THE TRAINING PROGRAM**
- University registration fee

**APPLICATION**
- For the majority of applicants from outside the European Union, through the Etudes en France application (visit http://www.etudes-en-france.net/)
- And for all other applicants, using the eCandidat application (deadlines vary depending on the chosen track and the year students apply to begin the Master’s program)

**NUMBER OF GRADUATES**
- About 80 per year

**COORDINATORS**
- **Corinne Autant-Bernard** (Professor at the Université Jean Monnet) Program coordinator
- **Sylvie Charlot** (Professor at the Université Lumière Lyon 2); Director of the Economics Research Officer training program
- **Julien Salanié** (Associate Professor at the Université Jean Monnet); Program Director for the Territorial Development Consultancy track
- **Izabela Jelovac** (CNRS Research Officer);
- **Béatrice Rey-Fournier** (Professor at the Université Lumière Lyon 2); **Laurent Simula** (Professor at the ENS de Lyon), **Philippe Solal** (Professor at the Université Jean Monnet); Directors of the Economics and Finance track
- **Christine Largeron** (Professor at the Université Jean Monnet); Director of the Economic Intelligence and Innovation Management track
GOAL
The Master’s in Fundamental Infectiology (M2RIF) offers training in research through research carried out by research professionals (research professors and researchers). Students can expect to receive cutting-edge scientific, conceptual and practical training in the field of infectiology and to train in the main forms of scientific communication.

After completing this program, students will have the option to continue with a dissertation in science for a career in academic or private research (researchers, research professors, research manager); or to develop solid skills in infectiology at a Master's level, which will then enable them to further their education to gain dual skills (management, marketing, legal, etc.); or to directly enter the workforce as an engineer.

CURRICULUM
The M2RIF program includes:

In the first semester (S3), classes, projects (TP), tutorials (TD), lectures:

- Specific to infectiology, including virology, bacteriology, replication strategies of infectious agents, immunology, vaccinology, host-pathogen interactions, epidemiology. Lectures are held in English with specialists in the field;

- Cross-disciplinary courses to support infectiology, including course units in statistics, bioinformatics, English, communication tools: scientific papers, general journals and oral presentations.

In the second semester (S4), an internship course unit in an infectiology research laboratory, either in France or abroad.
MASTER’S IN
FUNDAMENTAL INFECTIOLOGY

TEACHING LANGUAGE
Project and tutorial course units are taught in French. Language and lecture course units are taught in English.

PREREQUISITES FOR ADMISSION
The program is open to students from the fields of Health, Pharmacy, and Veterinary. Applicants must have completed:
• A first year Master’s, for initial education students;
• An equivalent program for students in the fields of Health, Pharmacy or Engineering Schools;
• Validation of professional experience for continuous training students;
• Solid foundations in biology, molecular and cell biology, genetics with an emphasis on infectiology (virology, microbiology, immunology);
• A reasonable mastery of spoken and written English, if possible with a certification at a first year Master’s level;

For non-French-speaking students, a level C2 (French) of the DALF, or a level B2 (English) of the Common European Framework of Reference for Languages.

LIST OF OPEN TEACHING UNITS
Optional course units:
• Replication strategies of the main infectious agents (BIO2485M course unit) - 6 ECTS
• Clinical Vaccine Development (BIO2327M course unit) - 3 ECTS
• Virology - Pathogen fungi (BIO2270M course unit) - 3 ECTS
• Bacteriology-Parasitology (BIO2271M course unit) - 3 ECTS
• Immunology: Host-Pathogen interactions (BIO2272M) - 3 ECTS
  Immunology and Cancer (BIO2261M) - 3 ECTS
• Fighting infection (BIO2484M course unit) - 3 ECTS
• Methods in epidemiology (DBH2080M) - 3 ECTS

COST OF THE TRAINING PROGRAM
University registration fee

APPLICATION
French students must apply exclusively through the Université Lyon 1’s eCandidat portal (https://ecandidat.univ-lyon1.fr/) and international students must apply through the Campus France portal (https://www.campusfrance.org/fr) and the eCandidat portal.

NUMBER OF GRADUATES
About 20 per year

COORDINATORS
Catherine Legras-Lachuer
Program Director, Université Claude Bernard Lyon 1, Campus de la Doua, Lwoff building, second floor
Patricia Doublet
Program Co-director, Université Claude Bernard Lyon 1, Campus de la Doua, Lwoff building, fourth floor

UNIVERSITIES / INSTITUTIONS
CO-CERTIFYING THE PROGRAM
Université Jean Monnet and Université Claude Bernard Lyon 1.

CONTACT INFORMATION
C. Legras-Lachuer: +33 (0) 4 37 28 76 15
P. Doublet: +33 (0) 4 72 44 81 05
catherine.lachuer@univ-lyon1.fr
Patricia.doublet@univ-lyon1.fr

WEBSITE
GOAL
The Acoustics Master’s program provides education in many different fields, such as aeroacoustics, vibroacoustics, sound perception, ultrasound with applications for the environment, transportation and health care. The study program consists of theoretical teaching, digital and experimental work, projects carried out in partner laboratories and research training with over one semester spent in an internship in a laboratory or business in France or abroad. This program offers the possibility to work in a consultancy firm or a company’s research and development department, or to carry out a doctoral thesis.

CURRICULUM
The Master’s in Acoustics (national diploma) draws on four internationally-renowned engineering schools, eight research laboratories of the Université de Lyon and a laboratory of excellence (LabEx): the Centre Lyonnais d’Acoustique (CeLyA). The detailed curriculum is available on the Master’s program’s website.

The first semester (S7) provides the scientific knowledge needed to complete the Master’s program, including the fundamentals of mechanics, physics and data processing, as well as an introduction to acoustics. The second semester (S8) is focused on acoustics and its context, with a practical application within an acoustics laboratory. In the third semester (S9), more advanced acoustics-specific courses are offered alongside courses focused on applications. Students can choose to specialize in their fields of interest. The final semester (S10) is focused on the MSc project, which may be done either in a research laboratory or in industry.
INTERNATIONAL MASTER’S IN ACOUSTICS

TEACHING LANGUAGE
Classes are given in English and in French.

PREREQUISITES FOR ADMISSION
Master’s program candidates are accepted based on their academic record. They must have completed a 3-year degree, or have a Bachelor of Science or equivalent degree. The first year of the Master’s program is primarily open to students who have a degree in mechanics, physics and Electronics, Electrotechnology, Automatics (EEA), but all applications from motivated students will be considered. As classes are taught both in English and French, applicants must have a good level of understanding at least one of these two languages (spoken and written) and display interest in scientific communication in both languages. Admission to the first year of the Master’s program is decided by the Master’s program’s Pedagogical Committee after review of the application and conditional to the completion of the student’s current program (degree or Bachelor’s degree).

PROGRAM TAILORED TO THE PROFESSIONAL PROJECT
The program can be tailored to the student’s professional aspirations thanks to the wide selection of elective courses (the complete list is available on the website) and the tutoring program.

COST OF THE TRAINING PROGRAM
For French students – or international students who are already enrolled in a degree program in France or equivalent: university enrollment fees.
For international students with foreign degrees, there is an additional yearly enrollment fee of 2,750 euros.
For engineering students from the École Centrale de Lyon, the INSA Lyon, the ENTPE, Polytech Lyon (and also the ECAM), the enrollment fees for the second year of the dual program Master’s program are €168 (lower fee for enrollment in the same institution, fee for the academic year 2017-2018).
Specific provisions for enrollment as part of continuous training.

APPLICATION
Two recruitment campaigns, one in January, one in May (see website).

NUMBER OF GRADUATES
Between 24 and 36 per year

COORDINATORS
Prof. Jean-Christophe Béra (first year Master’s program)
Prof. Christophe Bailly (second year Master’s program)

UNIVERSITIES/INSTITUTIONS
CO-CERTIFYING THE PROGRAM
École Centrale de Lyon, INSA Lyon, ENTPE and Polytech Lyon

CONTACT INFORMATION
master-acoustics@ec-lyon.fr

WEBSITE
http://master-acoustics.ec-lyon.fr/
GOAL
This Master's degree aims to train optics, image-processing and color professionals, who will be able to develop engineering, innovation or fundamental research activities in sectors linked to photonics, materials for optics, functionalization of surfaces, telecommunications, scientific instrumentation, industrial non-destructive testing, vision, imaging and multimedia 2D and 3D technologies.

CURRICULUM
The Master’s program offers four two-year tracks:

• **SISE**, which trains specialists in surface and interface science and engineering, from their properties to the advanced multi-scale manufacturing processes and functionalizing for optics, mechanics and chemistry.

• **AIMA**, which offers a major in optics, imaging and the evaluation of visual quality for lighting, appearance, printing, security, unconventional imaging systems for space programs or biomedical applications.

• **COSI**, which trains future generations of highly-qualified industrial experts in the applied color sciences for the photonics, optics, spectral imaging, vision, infographics and multimedia technology industries. European track.

• **3DMT**, an original major that includes computer science, multimedia technology, imaging sciences and machine vision. French-Norwegian track.
TEACHING LANGUAGE
Classes are given in English in all tracks.

PREREQUISITES FOR ADMISSION
Admission to the first year of the Master’s program is based on academic record, with a degree in physics, physics for engineers, physics and chemistry, Electronics, Electrotechnology, Automatics (EEA), computer science, mathematics or equivalent major, BSc or equivalent foreign diploma. Admission to the second year of the Master’s program based on academic record with 60 validated ECTS from an equivalent Master’s program in the same field, or students in the third year of an engineering school.

COST OF THE TRAINING PROGRAM
University enrollment fee for some tracks, see details for other tracks on the website.

APPLICATION
See website

NUMBER OF GRADUATES
Between 45 and 60 per year

COORDINATORS
Nathalie Destouches
Alain Trémeau
Mathieu Hébert
Emmanuel Marin
Sylvain Girard

UNIVERSITIES / INSTITUTIONS
CO-CERTIFYING THE PROGRAM
Université Jean Monnet, Institut d’Optique Graduate School, École Centrale de Lyon et Mines Saint-Etienne

CONTACT INFORMATION
D. Colombier: +33 (0) 4 77 91 57 29
master.oiv@univ-st-etienne.fr

WEBSITE
https://master-oivm.univ-st-etienne.fr/
GOAL

Through comprehensive and advanced training in fundamental mathematics, which starts off more general and becomes increasingly specialized, the Master’s in Advanced Mathematics prepares students for their PhD studies and guides students towards professions in mathematical research and higher education.

CURRICULUM

First year Master’s

Students will complete their general mathematics training with four advanced classes, covering a wide range of topics (algebra, analysis, geometry, probability). They can then begin to specialize in the second semester by choosing from ten more specific classes (partial differential equations, elementary algebraic geometry, differential geometry, statistics, Riemann surfaces, set theory and model theory, introduction to numbers theory, stochastic processes) The choices are modular and in some cases, Master’s-level courses from other departments within the ENS de Lyon (computer science and materials science) may also be accredited.

Second year Master’s

The second year is organized with specialties which change every year, enabling students to learn about contemporary areas of research. These specialties have been designed as standard routes, but students may build their own original and cross-disciplinary tracks by taking courses from several different specialties. Each year of study ends with a research internship (at least two months at the end of the first year, and four months at the end of the second year).
MASTER’S IN ADVANCED MATHEMATICS

TEACHING LANGUAGE
Classes are taught in English if requested by at least one student.

PREREQUISITES FOR ADMISSION
The Master’s program is open to students who have completed 180 or 240 ECTS or equivalent, conditional to a high degree of skill and motivation for work in higher education and research.

COST OF THE TRAINING PROGRAM
University registration fee

APPLICATION
French applicants:
www.ens-lyon.fr/formation/admission/
candidature-pour-une-formation-en-
master-etudiants-francais
International applicants:
http://www.ens-lyon.fr/formation/
admission/candidature-pour-une-
formation-en-master-etudiants-
internationaux

NUMBER OF GRADUATES
Approximately 30 in the first year and 25 in the second year

COORDINATORS
Emmanuel Grenier (director for M1)
emmanuel.grenier@ens-lyon.fr
Jean-Claude Sikorav (director for M2)
jean-claude.sikorav@ens-lyon.fr
Grégory Miermont (director of the Mathematics Department of the ENS de Lyon)
gregory.miermont@ens-lyon.fr

UNIVERSITIES/INSTITUTIONS
CO-CERTIFYING THE PROGRAM
ENS de Lyon, Université Claude Bernard Lyon 1 and Université Jean Monnet.

CONTACT INFORMATION
📞 +33 (0) 4 72 72 85 53

WEBSITE
http://mathematiques.ens-lyon.fr/
MASTER'S IN
NANOSCALE ENGINEERING
HARD SCIENCES / NANOTECHNOLOGY SPECIALIST SCIENTISTS

GOAL
The Nanoscale Engineering Master’s program provides students with skills in the disciplines underpinning microtechnology and nanotechnology applications (telecommunications, pharmacology, materials, etc.). It has a close partnership with high-level research laboratories and cutting-edge companies. It prepares students for an academic career or a career in large international companies.

CURRICULUM
First year Master’s
400 hours of classes and research laboratory projects + 2 two-month research projects in a research laboratory.

Second year Master’s
The theoretic and practical classes cover the development, characterization design of nanometric structures using the technological platforms of major nano and biotechnology laboratories in Lyon: quantum engineering, semiconductor nanostructures, functional materials, biosensors, photonics, surface analysis, spin electronics, information and communication technologies, cell engineering, micro and nanofluidics, intellectual property, ethics, project management.
MASTER’S IN NANO SCALE ENGINEERING

TEACHING LANGUAGE
All classes are taught in English.

PREREQUISITES FOR ADMISSION
For the first year of the Master’s program, students who have completed a degree in Science and Technology or an equivalent diploma from a foreign university (Bachelor’s). For the second year of the Master’s program, students who have completed the first year of a Master’s program in France or abroad or engineering students. Selection is based on the application. Apply online via the Master’s program’s website.

COST OF THE TRAINING PROGRAM
University registration fee

APPLICATION
See website

NUMBER OF GRADUATES
Between 30 and 40 per year

COORDINATORS
Bertand Vilquin
Patrice Chantrenne
Vincent Salles

UNIVERSITIES / INSTITUTIONS CO-CERTIFYING THE PROGRAM
École Centrale de Lyon, Université Claude Bernard Lyon 1 and INSA Lyon.

CONTACT INFORMATION
master.nanoscale@universite-lyon.fr

WEBSITE
http://master-nano.universite-lyon.fr/
GOAL
The Fundamental Computer Science program as part of the Master's in Computer Science aims to enable students to pursue a thesis from a large choice of subjects and to provide each student with the broadest possible scientific knowledge before they specialize.

CURRICULUM
First year Master's
Fundamental classes deepening student's knowledge: the first semester courses are more fundamental and the second semester includes more specialized classes with more optional classes.

Second year Master's
The courses available are completely updated every other year. The course selection process aims to provide a panoramic view of fundamental computer science while keeping up with current scientific progress. Of note among the many themes covered: optimization, logic, cryptography, operational research, imaging, algorithmic geometry, complexity, graphs, quantum computing, machine learning, parallel computing.
MASTER’S IN THE FUNDAMENTALS OF COMPUTER SCIENCE

TEACHING LANGUAGE
Classes are taught in English.

PREREQUISITES FOR ADMISSION
Based on the application after the third year of a degree in computer science or mathematics with a computer science minor.

LIST OF TEACHING UNITS

1st semester:
• English
• Integrated project
• Performance Evaluation and Networks
• Compilers and Program Analysis
• Information Theory
• Parallel and Distributed Algorithms and Programs
• Optimization and Approximation

2nd semester:
• Integrated project
• Cryptography and Security
• Computer Algebra
• Semantics and Verification
• Distributed Systems
• Programs and Proofs
• Data Bases and Data Mining
• Computational Complexity
• Computational Geometry and Digital Images
• Machine Learning
• Training Course (11 weeks)

3rd Semester:
• Optimal Decision Making and Online Optimization
• Computational Geometry
• Hard lattice problems
• Scheduling at scale
• Advanced Topics in Scalable Data Management
• Software Engineering & Compilation
• Modeling and performance evaluation of computer and communications system
• Complex Networks
• Lower bound methods
• Approximation Theory and Proof
• Assistants: Certified Computations
• Cryptanalysis
• Hardware Compilation and Simulation
• Combinatorial scientific optimization
• Topological combinatorics
• Advanced topics in semantics of programming language
• Logic, Automata and Games for Advanced Verification
• Automated Deduction, and opening to Distributed Algorithms

4th Semester:
• Training Course (20 weeks)

COST OF THE TRAINING PROGRAM
University registration fee

APPLICATION
See website

NUMBER OF GRADUATES
About 30 per year

COORDINATORS
Nicolas Trotignon
Director of the Computer Science department of the ENS de Lyon
Yves Robert
Director of the Fundamentals of Computer Science track

UNIVERSITIES / INSTITUTIONS CO-CERTIFYING THE PROGRAM
ENS de Lyon and Université Claude Bernard Lyon 1.

CONTACT INFORMATION
📞 +33 (0) 4 72 72 84 64
✉️ amel.zagrarni@ens-lyon.fr

WEBSITE
http://www.ens-lyon.fr/DI/
The AlterEurope program trains experts from the European Union and neighboring countries, who have a sound knowledge of social, economic and legal science and can support decision-making processes in public, private and voluntary sectors. This Master's degree is based on the concept of alterity in relations between the EU and neighboring countries, as well as on a multidisciplinary approach.

This program offers political science, political geography, economics and law classes. These four disciplines are the majors available in the first year of the Master's program. In the second year of the Master's program, students select the research track or the intelligence and project management track. In addition to these practical discipline-specific courses, students learn a language from the area of study (in particular Arabic, Russian and Turkish) and become more fluent in English.

**First year Master's**

**First Semester**
- Fundamental thematic and specific knowledge about the area of study;
- Majors;
- Languages.

**Second Semester**
- Thematic and discipline-specific in-depth courses;
- Study abroad;
- Languages;
- Internship (2-4 months) and internship report or research dissertation.

**Second year Master's**

**First Semester**
- Fundamental thematic and specific knowledge about the area of study;
- Professional specialization: research seminars or project management and intelligence training;
- Languages.

**Second Semester**
- Long internship (4-6 months) and internship dissertation or research dissertation.
TEACHING LANGUAGE
Most classes are taught in French. 10% of classes are taught in English.

PREREQUISITES FOR ADMISSION
Admission to the AlterEurope track is based on the application, both for initial and continuous training. An interview may be required.

LIST OF OPTIONAL TEACHING UNITS
In the first year of the Master’s program, some courses are optional. In the second year of the Master’s program, the course offer varies depending on the student’s chosen track. For more detailed information, read the syllabus at: http://altereurope.universite-lyon.fr/contenu-pedagogique/.

COST OF THE TRAINING PROGRAM
University registration fee. Specific provisions for enrollment as part of continuous training.

APPLICATION
Conditions for application to each institution. For further information: http://altereurope.universite-lyon.fr/candidatures/

NUMBER OF GRADUATES
About 20 per year

COORDINATORS
Pascal Bonnard
Track Coordinator, Program Director for the Université Jean Monnet
Emmanuelle Boulinaeu
Program Director for the ENS de Lyon and for the Political Geography major
Stéphane Gonzalez
Program Director for the Economics major
Cécile Robert
Program Director for Sciences Po Lyon and for the Political Science major
Aurélia Schahmanèche
Program Director for the Law major.

UNIVERSITIES / INSTITUTIONS
CO-CERTIFYING THE PROGRAM
The program is co-certified by the Université Jean Monnet and the ENS de Lyon and is partnered with Sciences Po Lyon.

CONTACT INFORMATION
master.altereurope@universite-lyon.fr

WEBSITE
http://altereurope.universite-lyon.fr/
GOAL

This multidisciplinary Master's program addresses all aspects of the territorial management, knowledge and restoration of continental aquatic environments, and the development of these spaces. It is designed to train specialists to be able to deal with the management of continental hydrosystems in a comprehensive manner. This training program corresponds to a more global collective approach based on the WFD 2000/60/EC and LEMA 2007, which requires a cross-disciplinary approach to water issues within functional and coherent spatial entities.

This Master's program aims to professionalize students in: planning projects (knowing how to determine their scope), management plans (SAGE, river contracts, multi-year maintenance plans, etc.) and evaluating their consistency with legal, economic and social frameworks while accounting for environmental requirements, leading work teams, knowing how to leverage and manage the funds required to implement these projects.

CURRICULUM

The Master's program is divided into four semesters over two years. The first year includes common courses in the first semester, reinforced by a long industry internship in the second semester (5-6 months). The second year makes it possible, after completing a second block of common course courses (third semester), to personalize the training program to match student's personal projects (fourth semester).

Two tracks are offered: COGEV\'EAU and IREMIR.

The COGEV\'EAU track addresses public policies and territorial systems, diagnosis of territories, eco-awareness and sustainable development, tourist development and recreational activities, geopolitics and mediation.

The IREMIR track covers hydraulics and design, ecological engineering for restoration, bioevaluation and remediation. These tracks include specialized course units, a project with support from a mentor and training within a company (internship or apprenticeship, see apprenticeship section).
Most classes are taught in French. 20% of classes are taught in English.

**PREREQUISITES FOR ADMISSION**

**First-year Master’s Program:**
Third-year degree program in Geography and Urban Planning, or Life and Earth Sciences, or Life Sciences or Science and Technology.

In any case, previous experience (training and/or professional experience) at least partially involving one or more of the themes covered by the program is required. One of the main selection criteria is the consistency between the training program and the applicant’s professional project. Some students who have completed a professional degree may enroll under certain conditions (returning to school or academic excellence).

**Second-year Master’s Program:**
Engineering students or students with a Master’s degree in a similar field may also directly enroll in the second year of the Master’s program, following validation of first year Master’s course unit equivalence (as determined by the Pedagogical Committee). However, it is necessary to have an in-depth experience of several months involving one of the themes of the program, from an internship, previous employment or a research dissertation, an offer for an apprenticeship or professionalization contract.

**COST OF THE TRAINING PROGRAM**
- University registration fee

**APPLICATION**
- See website

**NUMBER OF GRADUATES**
- Up to 24 per year

**COORDINATORS**
- Norbert Landon
  Pedagogical Director of the Master’s program

**UNIVERSITIES / INSTITUTIONS**
CO-CERTIFYING THE PROGRAM
Université Lumière Lyon 2 and Université Claude Bernard Lyon 1.

**CONTACT INFORMATION**
- norbert.landon@univ-lyon2.fr

**WEBSITE**
https://master-eau.univ-lyon2.fr/
GOAL
Students are trained in earth sciences with special focuses on experiments, fieldwork, paleontology, sedimentology, tectonics, geophysics, geochemistry and numerical modelling.

CURRICULUM
The Earth Science, Planets and Environments Master’s program includes two tracks: paleontology, sedimentology, paleoenvironments (PSP), and Earth and planets (T&P).

The PSP track
Trains environmental geologists with excellent skills and knowledge in natural objects (fossils, sedimentary rocks), data acquisition in the field, in the laboratory, in collections, and their paleoenvironmental interpretations in terms of climate, bio-geography, physics, chemistry and past oceans and atmosphere.

The T&P track
Develops strong skills in geophysics, geochemistry and mineralogy, mostly toward the understanding of the interior of the Earth and planets.

All these skills are widely appreciated in Earth Sciences and are of interest to both academic and private sectors.
MASTER’S IN EARTH SCIENCE, PLANETS AND ENVIRONMENTS

TEACHING LANGUAGE
Classes are taught in French (English upon request).

PREREQUISITES FOR ADMISSION
The first year of the Master’s program is open to students with a BSc (180 ECTS) and trained in Geology, Physics, Chemistry, Mathematics or Biology. High grades throughout the previous curriculum are expected.

The second year of the Master’s program is open to students with 240 ECTS and trained in Geology, Physics, Chemistry, Mathematics or Biology. High grades throughout the previous curriculum are expected (prerequisite for admission: average grade of 12/20 in the first year of the Master’s program).

COST OF THE TRAINING PROGRAM
University registration fee
For continuous training, please write to:
formation.continue@ens-lyon.fr

APPLICATION
http://sciencesdelaterre.ens-lyon.fr/inscriptions/en-master-stpe

NUMBER OF GRADUATES
About 25 per year

COORDINATORS
Guillemette Ménot, Sylvain Pichat
ENS de Lyon
Guillaume Suan, Claude Colombié
Université Claude Bernard Lyon 1

UNIVERSITIES / INSTITUTIONS CO-CERTIFYING THE PROGRAM
Université Claude Bernard Lyon 1 and ENS de Lyon.

CONTACT INFORMATION
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+33 (0) 4 72 72 84 99
Oriane Marduel (Université Claude Bernard Lyon 1) :
+33 (0) 4 72 44 84 85
emmanuelle.lousson@ens-lyon.fr
oriane.marduel@univ-lyon.fr

WEBSITE
http://sciencesdelaterre.ens-lyon.fr/enseignements/master