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23

MASTER'S DEGREES



Ciências
ULisboa

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Editing Faculty of Sciences of the University of Lisbon

Editorial Coordination Studies, Planning and Quality Area

Design Communication and Image Unit

Pictures Ciências ULisbon



Ciências ULisboa

Ciências ULisboa is a faculty recognized for the quality of its teaching, research and knowledge enhancement. Being part of the University of Lisboa (ULisboa), the largest and most competitive university in the country, Ciências has a diversified educational offer in the domains of exact and natural sciences.

Ciências has modern infrastructures for the development of high level research. Through Tec Labs – Innovation Centre, it motivates students for entrepreneurship and provides the necessary tools for the

application and development of their innovative ideas.

In troubled and difficult times, the Ciências community joins forces to ensure the highest scientific, technological and innovative pedagogical standards. It is the human capital of this institution that allows it to turn today's challenges into a safer and more stimulating future. This is happening now and it will continue to be like this for times to come.

Master's Degrees

The master's degrees (2nd cycle) prepare students to stand out professionally for their scientific and technical skills. Their curricular component is firmly rooted on the scientific and technological research activities carried out by the Ciências' Research and Development (R&D) units.

Existing collaboration protocols with several entities make it possible for master's degree to be carried out in a corporate context and to have a direct application on the answer to society's issues.

So, move on, get to know our courses and start building your future !



Get to
know
Ciências

Applications 2022 | 2023 Online

1st period 1 June to 11 July 2022

2nd period 8 to 19 August 2022

3rd period 19 to 23 September de 2022

Vacancies and selection criteria at
ciencias.ulisboa.pt

Applied Microbiology

Number of credits

120 ECTS

Timetable

Daytime (afternoon)

Skills

Design, validation and application of procedures of: microbiological diagnosis; epidemics/pandemics; food safety / quality; fight against bioterrorism. Research, development and entrepreneurship in: new antibiotics, vaccines and nutraceuticals; genetically modified organisms and risk assessment; biocatalysts, biofuels, biopolymers and nanomaterials; treatment of industrial effluents.

Employment

Companies and public institutions in the environment, biotechnology, health, animal health and agricultural production areas | Pharmaceutical and food industry | Regulatory and supervisory entities | Higher education and research institutions.

R&D Units

BioSI | Biosystems and Integrative Sciences Institute

cE3c | Centre for Ecology, Evolution and Environmental Changes

CESAM - Ciências | Centre for Environmental and Marine Studies

Biochemistry and Biomedicine

Number of credits

120 ECTS

Timetable

Daytime

Skills

Advanced knowledge in the concepts and experimental methodologies of modern biochemistry and biomedicine and its interconnection with other areas in the life sciences. Implementation of experimental methods and procedures for biomolecular analysis in laboratory research, development, services or laboratorial analysis. Competence in the analysis, interpretation and contextualization of biological phenomena and processes based on the principles of the scientific method and its application.

Employment

Biotechnology companies | Pharmaceutical industry | Clinical or service laboratories | Industrial laboratories or trading companies of high-tech equipment | Higher education and research institutions.

R&D Units

BioSI | Biosystems and Integrative Sciences Institute

CQE - Ciências | Centre for Structural Chemistry

MARE | Marine and Environmental Sciences Centre

Bioinformatics and Computational Biology

Number of credits

120 ECTS

Timetable

Daytime

Skills

Technical interface between life sciences and IT and computational technologies. Technical-scientific support to the advanced analysis of biological data, namely in the new generation of genetical sequencing technologies. Development of information systems for biomedical applications.

Employment

Companies of the pharmaceutical, health, biotechnology and environment sector
| Higher education and research institutions.

R&D Units

LASIGE | Computer Science and Engineering Research Centre

cE3c | Centre for Ecology, Evolution and Environmental Changes

BioISI | Biosystems and Integrative Sciences Institute

Biology and Geology Teaching

Inter-ULisboa Course

Number of credits

120 ECTS

Timetable

Mixed

Skills

Qualification for the exercise of teaching duties in the 3rd cycle of basic education and secondary education. Development of the professional practice, articulating the scientific, general educational and didactic education. Promotion of the reflexive and critical ability of future teachers, as well as in the domain of educational research methodologies and techniques, applied to the teaching – learning of biology and geology.

Employment

Basic and secondary education schools |
Education and training institutions in the biology and geology teaching domain.

Biology of Plant Resources

Inter-ULisboa Course

Number of credits

120 ECTS

Timetable

Daytime

Skills

Knowledge acquisition in the plant biology and biotechnology area. Application of molecular and cell technologies necessary for the innovative development of plants applications.

Employment

Companies dedicated to the valuation of agricultural variety, endemic/native plants propagation and bioremediation | Paper and cork industry | Biotechnological, pharmaceutical, agricultural or environmental-based companies | Higher education and research institutions | Public institutions.

R&D Units

cE3c | Centre for Ecology, Evolution and Environmental Changes

BioISI | Biosystems and Integrative Sciences Institute

Biomedical Engineering and Biophysics

Number of credits

120 ECTS

Timetable

Daytime

Skills

Understanding of the human body and health and disease processes. Modelling of complex biological and artificial systems. Analysis of complex data. Knowledge of the principles and technologies used in the clinical practice and research for the promotion of health and welfare, diagnosis, therapy and rehabilitation. Design and construction of prototypes for health digital solutions and medical devices. Understanding the process of marketing authorization of a medical device.

Employment

Medical technology and biomedical engineering companies | Consultancy companies | Hospitals and other health institutions | Higher education and research institutions.

R&D Units

IBEB | Institute of Biophysics and Biomedical Engineering

LIP | Laboratory of Instrumentation and Experimental Particle Physics

CFTC | Center for Theoretical and Computational Physics

LASIGE | Computer Science and Engineering Research Centre

BioISI | Biosystems and Integrative Sciences Institute

Biostatistics

Number of credits

120 ECTS

Timetable

Daytime (afternoon)

Skills

Planning and analysis of experiences and development of methodologies necessary for research in several areas of life and health sciences. Selection of experiences methodologies to respond to medical/biological questions. Selection and application of statistical techniques in the processing, analysis and modelling of data. Use of statistical analysis software: data processing and interpretation of results. Efficient communication of results.

Employment

Market study companies in the health sector | Pharmaceutical industry | Research institutions in the areas of biology, psychology, medicine and other life and health sciences | Regulatory entities in the health and medicine sector | Hospitals | Higher education and research institutions.

R&D Units

CEAUL | Centre of Statistics and its Applications

Chemistry

Number of credits

120 ECTS

Timetable

Daytime

Areas of Specialisation

Chemistry | Analytical Chemistry | Applied Electrochemistry

Skills

Summarize, prepare, formulate, optimize, test and apply new molecules, substances or materials following the good laboratorial practices in line with sustainable methodologies. Use and validate advanced instrumental techniques for chemical characterization and analysis.

Employment

Chemical and petrochemical industry | Agrochemical industry | Pharmaceutical and beauty industry | Food industry | Quality control and analytical laboratories | Environmental control laboratories | Forensic toxicology and criminal investigation laboratories | Food safety and defence laboratories | Companies that provide services, audit and consultancy | Scientific instrumentation trade companies | Higher education and research institutions.

R&D Units

CQE - Ciências | Centre for Structural Chemistry BiolSI | Biosystems and Integrative Sciences Institute

Cognitive Science

Inter-ULisboa Course

Number of credits

120 ECTS

Timetable

Mixed

Skills

Design, development and operation of services and systems with a high cognitive component, based on the interdisciplinary analysis of the mind and the brain, integrating results from psychology, neurosciences, evolutive biology, linguistics, philosophy, anthropology and other social sciences, applying computational, mathematical and physical sciences' methods.

Employment

Technological, consulting and audit companies | Companies with advanced user-interaction systems | Companies and institutions in the healthcare and support to people with special needs sector | Accreditation and regulatory entities | Hospital institutions | R&D Laboratories | Higher education and research institutions.

R&D Units

BioISI | Biosystems and Integrative Sciences Institute
IBEB | Institute of Biophysics and Biomedical Engineering
LASIGE | Computer Science and Engineering Research Centre

Conservation Biology

Number of credits

120 ECTS

Timetable

Daytime

Skills

Conservation and management of species and ecosystems. Optimization of the uses of Biodiversity by Man. Compatibility of economic activities with environmental conservation. Integration of biodiversity values in the study of environmental impacts and in land planning. Studies about the ecology of species and ecosystems.

Employment

Companies of natural resources impact and management studies | Non-governmental organizations | Higher education and research institutions | Public institutions.

R&D Units

cE3c | Centre for Ecology, Evolution and Environmental Changes
CESAM - Ciências | Centre for Environmental and Marine Studies
MARE | Marine and Environmental Sciences Centre
BioISI | Biosystems and Integrative Sciences Institute



Research

Benchmark R&D Units

36+ M€ of investment
in R&D

1158 scientific papers
published

2020

Data Science

Number of credits

120 ECTS

Timetable

Daytime

Skills

Machine learning, data mining, data processing and analysis, support technologies and crucial mathematical foundations.

Employment

Companies which process large amounts of data in the telecommunications, life sciences, health, insurances and banking sectors | Public institutions and State companies.

R&D Units

LASIGE | Computer Science and Engineering Research Centre

CEAUL | Centre of Statistics and its Applications

BioISI | Biosystems and Integrative Sciences Institute

IBEB | Institute of Biophysics and Biomedical Engineering

Design for Sustainability

Inter-ULisboa Course

Number of credits

120 ECTS

Timetable

Daytime

Skills

Interpretation of natural and social ecosystems. Development, verification and implementation of design projects in their interaction with social, economic and environmental sciences. Consolidation of creative and innovation processes (design thinking) applicable to projects in the area of sustainability, services, community and circular economy.

Employment

Companies dedicated to waste valuation, recycling of materials, design of low environmental footprint packages | Construction companies with social and sustainability goals | Companies dedicated to nature-based or inspired solutions | Higher education and research institutions | Public institutions.

R&D Units

cE3c | Centre for Ecology, Evolution and Environmental Changes

IDL | Institute Dom Luíz

Ecology & Environmental Management

Number of credits

120 ECTS

Timetable

Daytime

Skills

Application of environmental policies. Land planning and management. Assessment of environmental impacts and preparation of proposals for their mitigation and compensation. Development of environmental management and quality practices. Conservation of the ecosystems' biodiversity and services. Management of natural resources.

Employment

Companies and public institutions of the environment sector, in the land planning and management, environmental impact assessment, natural resources management, nature conservation and sustainable development areas.

R&D Units

cE3c | Centre for Ecology, Evolution and Environmental Changes

MARE | Marine and Environmental Sciences Centre

CESAM - Ciências | Centre for Environmental and Marine Studies

IDL | Institute Dom Luiz

Energy and Environment Engineering

Number of credits

120 ECTS

Timetable

Daytime

Skills

Intervention capacity in the project, planning, audit and operation of renewable energy, sustainable mobility, energy efficiency and sustainable buildings systems. Application of knowledge acquired in research and resolution of advanced energy and environmental issues.

Employment

Companies producing, installing and providing services in the renewable energies sector | Energy efficiency consultancy | Companies' sustainability offices | International agencies and organizations | Higher education and research institutions | Public institutions.

R&D Units

IDL | Institute Dom Luiz

Engineering Physics

Number of credits

120 ECTS

Timetable

Daytime

Skills

Research, project and development of processes and systems in the areas of electronics and instrumentation, sensors, metrology and quality, physics and materials technology, micro and nanotechnologies, space sciences, optical, photonic and laser systems and technologies. Simulation and modelling of processes and systems.

Employment

Technology-based companies | Technical-scientific and economic-financial audit and consultancy companies | Services companies and industry | Regulatory and accreditation entities | International scientific and technological research organizations | Higher education and research institutions.

R&D Units

IA | Institute of Astrophysics and Space Sciences

IBEB | Institute of Biophysics and Biomedical Engineering

LIP | Laboratory of Instrumentation and Experimental Particle Physics

CENTRA - Ciências | Center for Astrophysics and Gravitation

CFTC | Center for Theoretical and Computational Physics

Evolutionary and Developmental Biology

Number of credits

120 ECTS

Timetable

Daytime

Skills

Integrated view of biology and biomedicine focused on the organism. Study of the mechanisms implied in the formation of organisms, considering several levels of cell biological organization in behaviour. Interconnection of concepts which allow the acquisition of knowledge on the molecular, cell, organism and population level of bacteria in humans. Identification of integrative approaches to better face societal challenges, from cancer to regenerative medicine, from biological invasions to the effect of climate change.

Employment

Companies and public institutions in the biology, biomedicine, biotechnology and conservation sectors | Scientific dissemination institutions | Higher education and research institutions.

R&D Units

cE3c | Centre for Ecology, Evolution and Environmental Changes

Financial Mathematics

Course in Association

Number of credits

120 ECTS

Timetable

Evening

Skills

Management of financial risks (market risk, credit risk, operational risk), financial innovation (management and coverage of structured products, derivatives trading) and financial instruments assessment (management of assets portfolios, pension funds).

Employment

Banking and insurances companies |
Companies managing investment funds |
Companies managing pension funds |
Brokerage companies.

Geology

Number of credits

120 ECTS

Timetable

Daytime

Areas of Specialisation

Geodynamics and Geological Resources |
Palaeoenvironments and Global Change |
Applied and Environmental Geology

Skills

Multiscale and integrated analysis of the constitution, organization and interaction (dynamics) of geological systems. Recognition of the implication and applications of the geological knowledge, namely in understanding Orogenic Cycles. Characterization and interpretation of geological processes and systems, applying geological knowledge in specific domains and interface with other knowledge areas.

Employment

Companies and public institutions of the sector of exploitation, extraction and management of geological and energy resources, geotechnics, assessment and minimization of impacts and risks and land planning | Higher education and research institutions.

R&D Units

IDL | Institute Dom Luiz

Geophysical Sciences

Number of credits

120 ECTS

Timetable

Daytime

Areas of Specialisation

Solid Earth Geophysics | Meteorology and Oceanography

Skills

Acquisition and manipulation of data on Earth's physical system for the modelling of the atmosphere, ocean, interior of the Earth, meteorology forecast, operational oceanography methods, geophysical prospection. Characterization of the recent climate evolution and modelling of climate change. Development of methodologies and systems to monitor the Earth. Assessment of natural risks, including extreme geophysical phenomena (floods, draughts, heatwaves, earthquakes, tsunamis, volcanoes). Assessment of renewable energy, hydric and hydrocarbons resources.

Employment

Companies, laboratories and public institutions in the natural resources use sector | Companies of geophysical prospection or consultancy regarding natural risks, environmental impact and land management.

R&D Units

IDL | Institute Dom Luiz
MARE | Marine and Environmental Sciences Centre

Geospatial Engineering

Number of credits

120 ECTS

Timetable

Daytime

Skills

Design, execute and manage processes in the areas of geodesy, cartography, photogrammetry, remote detection, spatial and geoinformation modelling, focusing on the planning and decision-making on the land and for the generation of space-based products requested by other engineering areas and, particularly, by the information society.

Employment

IT companies | Architecture, construction and urbanism companies | Telecommunications, distribution and logistics companies | Environmental, energy and natural resources companies | Space companies | Public institutions and State companies.

R&D Units

IDL | Institute Dom Luiz

History and Philosophy of Science

Number of credits

120 ECTS

Timetable

Mostly in the evening

Skills

Interpretation of past scientific texts. Critical analysis of science. Training on the main topics, texts, characters and matters of the history and Philosophy of Science. Critical intervention capacity in current scientifically relevant discussions.

Employment

Museums and science centres | Companies and public institutions of scientific and technological heritage | Media companies | Scientific dissemination institutions | Public institutions of sciences' strategic management.

R&D Units

CIUHCT | Interuniversity Center for the History of Science and Technology

CFCUL | Centre for Philosophy of Science of the University of Lisbon

Job
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Ciências
ULisboa

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- **Workshops**
- **Interviews and Recruitment**



Ciências
ULisboa

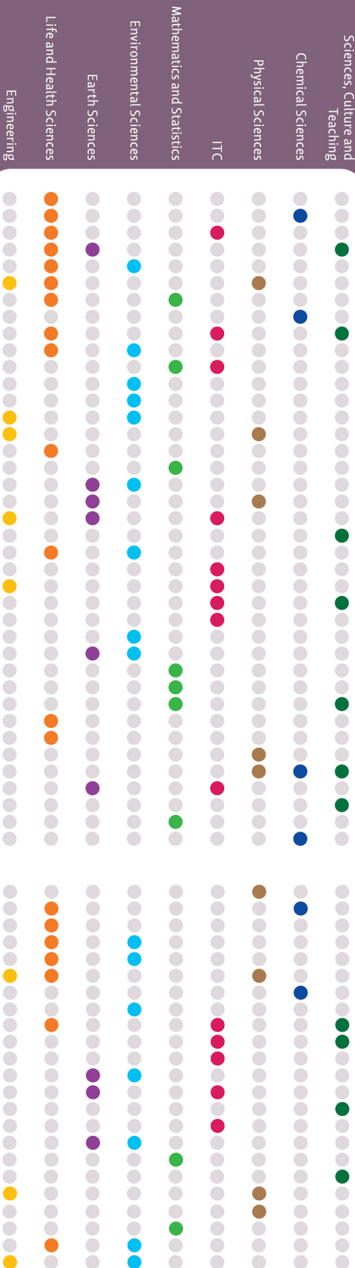
educational offer

Master's Degree

- Applied Microbiology
- Biochemistry and Biomedicine
- Bioinformatics and Computational Biology
- Biology and Geology Teaching
- Biology of Plant Resources
- Biomedical Engineering and Biophysics
- Biostatistics
- Chemistry
- Cognitive Science
- Conservation Biology
- Data Science
- Design for Sustainability
- Ecology and Environmental Management
- Energy and Environment Engineering
- Engineering Physics
- Evolutionary and Developmental Biology
- Financial Mathematics
- Geology
- Geophysical Sciences
- Geospatial Engineering
- History and Philosophy of Science
- Human Biology and Environment
- Informatics
- Informatics Engineering
- Informatics Teaching
- Information Security
- Marine Ecology
- Marine Sciences
- Mathematics
- Mathematics Applied to Economics and Business
- Mathematics Teaching
- Microbiology
- Molecular Biology and Genetics
- Physics
- Physics and Chemistry Teaching
- Science in Navigation and Geomatics
- Scientific Culture and Outreach in Science
- Statistics and Operational Research
- Technological Chemistry

PhD

- Astronomy and Astrophysics
- Biochemistry and Biomedicine
- Biodiversity, Genetics and Evolution
- Biology
- Biology and Ecology of Global Changes
- Biomedical Engineering and Biophysics
- Chemistry
- Climate Change and Sustainable Development Policies
- Cognitive Science
- Complexity Sciences
- e-Planning
- Geology
- Geophysical Sciences and Geoinformation
- History and Philosophy of Science
- Informatics
- Marine Sciences
- Mathematics
- Philosophy of Science, Technology, Art and Society
- Physical Engineering
- Physics
- Statistics and Operations Research
- Sustainability Sciences
- Sustainable Energy Systems



Human Biology and Environment

Number of credits

120 ECTS

Timetable

Daytime

Skills

Analysis and intervention techniques in the topics related to the environment - human health interaction: exposure, entrance ways and impact of several chemical compounds on the human body (toxicology, nutrition, etc.); Consequences in human populations of the vectors responsible for the dissemination of pathogenic agents and effects observed in Human beings, approached in the context of the metabolic and immunological response and the adaptation to stress.

Employment

Pharmaceutical and food industry | Hospital and criminal investigation laboratories | Quality control (food, environment sector, etc.) and regulatory bodies | Higher education and research institutions.

R&D Units

CESAM - Ciências | Centre for Environmental and Marine Studies

cE3c | Centre for Ecology, Evolution and Environmental Changes

CEAUL | Centre of Statistics and its Applications

BiolSI | Biosystems and Integrative Sciences Institute

Informatics

Number of credits

120 ECTS

Timetable

Daytime (afternoon)

Skills

Design and development of IT systems and applications in a variety of multidisciplinary domains of the economic and social activity. Learning in a complementary perspective in areas such as web and multimedia, information networks and systems, languages and software engineering, providing the knowledge for the construction and operation of IT solutions together with other areas.

Employment

Software development, contents and security companies | Telecommunication, services, consultancy companies and multidisciplinary and complementary areas | Higher education and research institutions | Public institutions.

R&D Units

LASIGE | Computer Science and Engineering Research Centre

BiolSI | Biosystems and Integrative Sciences Institute

Informatics Engineering

Number of credits

120 ECTS

Timetable

Daytime (afternoon)

The pedagogical offer of the master's degree is organized in Specialization Curricular Groups (ACEs).

Skills

Planning, design, development, operation and management of computer systems and their components: operating systems, information systems, smart systems, computers networks and mobile environments. Design and development of games. Proposal of solutions for big data issues with machine learning and data mining. Development and application of software engineering, multimedia, graphic computation, Information security, person-machine interaction and robotics solutions.

Employment

Software development companies | Consultancy companies | Financial, telecommunications and services companies | Higher education and research institutions | Public institutions.

R&D Units

LASIGE | Computer Science and Engineering Research Centre

BiolSI | Biosystems and Integrative Sciences Institute

Informatics Teaching

Inter-ULisboa Course

Number of credits

120 ECTS

Timetable

Mixed

Skills

Qualification for the exercise of teaching duties in the 3rd cycle of basic education and secondary education. Development of the professional practice, articulating the scientific, general educational and didactic education. Promotion of the reflexive and critical ability of future teachers, as well as in the domain of educational research methodologies and techniques, applied to the teaching – learning of informatics.

Employment

Basic and secondary education schools | Education and training institutions in the informatics teaching domain.

Information Security

Number of credits

120 ECTS

Timetable

Daytime (afternoon)

Skills

Design and implementation of applications and systems' security. Theoretical knowledge combined with laboratory work in the areas of security and reliability, as well as information protection and critical infrastructures, aiming for a symbiosis between politics / legislation and technology / architecture / protocols.

Employment

Consultants | Banking and financial companies
| Telecommunications and electric grids companies
| Public institutions.

R&D Units

LASIGE | Computer Science and Engineering Research Centre

Marine Ecology

Number of credits

120 ECTS

Timetable

Daytime

Skills

Recognition of the environmental services of the Ocean and the basis of its sustainable uses. Understanding the structure and operation of marine ecosystems, Man/Ocean interactions and marine governance. Integration of the areas of ecology, marine land planning, environmental assessment and Ocean live and non-life resources management, for the compatibility of human activities with marine conservation.

Employment

Companies and public institutions dedicated to the characterization, study, planning and management of the marine, coastal and ocean environment | Companies connected to blue economy, in the areas of marine crops, tourism, biotechnology, ocean energy or marine mining | Higher education and research institutions.

R&D Units

MARE | Marine and Environmental Sciences Centre

Marine Sciences

Number of credits

120 ECTS

Timetable

Daytime

Skills

Interdisciplinary methodologies (biology, physics, geology and chemistry) for the analysis and solving of problems regarding the management of the marine domain: coast and land planning, marine resources, risks and climate change. Interface functions with the economic and decision-making system. Focus on operational management, regulation and research aspects.

Employment

Companies and public institutions which provide services and counselling on environmental impact analysis, renewable energy, aquaculture and fishing domains.

R&D Units

MARE | Marine and Environmental Sciences Centre

IDL | Institute Dom Luiz

CQE - Ciências | Centre for Structural Chemistry

Mathematics

Number of credits

120 ECTS

Timetable

Daytime

Skills

Solid training in the fundamental areas of mathematics and specialization in a specific area of pure or applied mathematics. Analytical and abstract thinking capacity, development of the ability to represent, model and analyse phenomena, concepts and structures quantitatively. Support to scientific research and interdisciplinary technologies.

Employment

Baking and insurances, financial consultancy, informatics and engineering companies | Higher education and research institutions | Public institutions.

R&D Units

CEAFEL - Ciências | Center for Functional Analysis, Linear Structures and Applications

CEMAT - Ciências | Center for Computational and Stochastic Mathematics

CMAFCIO | Center for Mathematics, Fundamental Applications and Operations Research

GFM | Group of Mathematical Physics of the University of Lisbon



valuation

Knowledge transfer
to society

8 spin-offs

10 invention communications

2 patent applications

2021

Mathematics Applied to Economics and Business

Number of credits

120 ECTS

Timetable

Mostly in the evening

Skills

Development of applied mathematics, statistics and operational research methodologies aimed for the resolution of problems connected to economics and management, namely: risk assessment (market risk, credit risk), pricing of life and non-life insurances, business analytics, logistics and operations management, transports management, market studies and customer relationship management.

Employment

Banking and insurances, consultancy, energy, telecommunications and transport companies | Business management support entities | Public institutions.

Mathematics Teaching

Inter-ULisboa Course

Number of credits

120 ECTS

Timetable

Mixed

Skills

Qualification for the exercise of teaching duties in the 3rd cycle of basic education and secondary education. Development of the professional practice, articulating the scientific, general educational and didactic education. Promotion of the reflexive and critical ability of future teachers, as well as in the domain of educational research methodologies and techniques, applied to the teaching – learning of mathematics.

Employment

Basic and secondary education schools | Education and training institutions in the mathematics teaching domain.

Microbiology

Inter-ULisboa Course

Number of credits

120 ECTS

Timetable

Daytime

Skills

Interface between microbiology and the areas of biotechnology and food, health, food safety and environment industry. Development of the skills necessary for the innovation and entrepreneurship in the area of microbiology.

Employment

Companies and public institutions in the environment, biotechnology and biomedical areas | Pharmaceutical and food industry | R&D Laboratories | Higher education and research institutions.

R&D Units

CQE - Ciências | Centre for Structural Chemistry
cE3c | Centre for Ecology, Evolution and Environmental Changes
BioISI | Biosystems and Integrative Sciences Institute

Molecular Biology and Genetics

Number of credits

120 ECTS

Timetable

Daytime

Skills

Molecular biology techniques, enabled by computational means: search, location and study of the genes' structure and function. Evolution of disease-causing microorganisms and understanding the immune system.

Employment

Environmental, public health and forensic medicine analysis laboratories | Medical, analysis, pharmaceutical and criminal investigation laboratories | Higher education and research institutions.

R&D Units

BioISI | Biosystems and Integrative Sciences Institute
cE3c | Centre for Ecology, Evolution and Environmental Changes
CESAM - Ciências | Centre for Environmental and Marine Studies

Physics

Number of credits

120 ECTS

Timetable

Daytime

Areas of Specialisation

Astrophysics and Cosmology | Statistical and Condensed Matter Physics | Nuclear and Particle Physics

Skills

Physics and astronomy research. Modelling and simulation of complex systems in physics and other domains. Development of new materials and processes. Development of software and instrumentation. Development of advanced characterization and measurement techniques of physic-based technologies.

Employment

Trade, consultancy, services and industry companies | Regulatory and accreditation entities | International sciences and technology organizations | Higher education and research institutions.

R&D Units

BioISI | Biosystems and Integrative Sciences Institute

CFTC | Center for Theoretical and Computational Physics

IA | Institute of Astrophysics and Space Sciences

IBEB | Institute of Biophysics and Biomedical Engineering

Physics and Chemistry Teaching

Inter-ULisboa Course

Number of credits

120 ECTS

Timetable

Mixed

Skills

Qualification for the exercise of teaching duties in the 3rd cycle of basic education and secondary education. Development of the professional practice, articulating the scientific, general educational and didactic education. Promotion of the reflexive and critical ability of future teachers, as well as in the domain of educational research methodologies and techniques, applied to the teaching – learning of physics and chemistry.

Employment

Basic and secondary education schools | Education and training institutions in the physics and chemistry teaching domain.

Science in Navigation and Geomatics

Course in Association

Number of credits

120 ECTS

Timetable

Daytime

Skills

Monitoring of marine spaces, satellite positioning global systems, geographical information systems, marine navigation systems and correspondent integration, nautical cartography and marine signalling, Remote detection and image digital processing. Integrated view of the matters regarding marine navigation and ocean observation, through geomatics.

Employment

Companies and public institutions in the hydrography and port engineering sector | Navy | International navigation agencies | Research institutions in the logistics and sea transport area.

R&D Units

IDL | Institute Dom Luiz

Scientific Culture and Outreach in Science

Inter-ULisboa Course

Number of credits

120 ECTS

Timetable

Mixed

Skills

Understanding the scientific culture as part of the national heritage and its implications in decision-making. Know the sciences' nature and correspondent dissemination strategies. Recognition of the importance of formal, non-formal and informal contexts for sciences learning. Conceptualization and organization and scientific heritage. Development and operationalization of efficient strategies for scientific content dissemination.

Employment

Museums and science centres | Scientific dissemination, scientific tourism institutions and other entities with science-based entertainment and cultural dissemination activities | Higher education and research institutions | Public institutions.

R&D Units

IA | Institute of Astrophysics and Space Sciences

CIUHCT | Interuniversity Center for the History of Science and Technology

IDL | Institute Dom Luiz

CQE - Ciências | Centre for Structural Chemistry



employability

Betting on a promising future

79% of graduates with
employment in the training area

81% of graduates satisfied
with their career path

Employability Survey 2021,
2018/2019 Graduates (2nd cycle)

Statistics and Operational Research

Number of credits

120 ECTS

Timetable

Daytime (afternoon)

Areas of Specialisation

Statistics | Statistics and Operational Research | Operational Research

Skills

Analysis, modelling and resolution of strategic or operational problems, in diversified and multidisciplinary contexts. Quantification of uncertainty, assessment of risks regarding possible decisions and optimization of decision rules through statistical and/or operational research methodologies and techniques, including the correct analysis of all implications of the generated information.

Employment

Companies of the banking and insurances areas, consultancy, transport, planning and other sectors that aim for the analysis of data and events, to characterize phenomena and support decisions | Hospital institutions | Public institutions.

R&D Units

CMAFcIO | Center for Mathematics, Fundamental Applications and Operations Research

CEAUL | Centre of Statistics and its Applications

Technological Chemistry

Number of credits

120 ECTS

Timetable

Daytime

Skills

Design, development and innovation of chemistry applications to industrial processes. Development of technologies and techniques in the quality control, environment, chemical analysis, industrial management and security, resources valuations and waste areas. Intervention in the chemistry / chemical engineering interface.

Employment

Chemical and associated companies: plastics, textile, paper, cement, cork, pharmaceutical, food, extractive, petrochemical | Services and consultancy companies | Higher education and research institutions | Public institutions.

R&D Units

CQE - Ciências | Centre for Structural Chemistry

Soft Skills

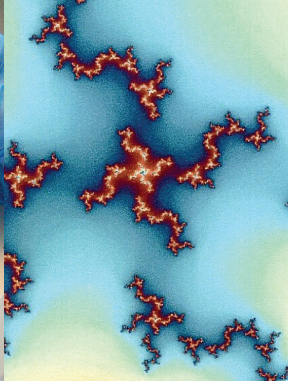
Soft Skills are a fundamental component of training and are associated with the development of a more comprehensive view of aspects of science or society and the development of socio-emotional and behavioral skills, such as time management, assertiveness, initiative, teamwork, planning or tolerance to stress.

They are necessary competencies for good professional performance, independently of the degree. They are complementary to the scientific training required to exercise a profession.

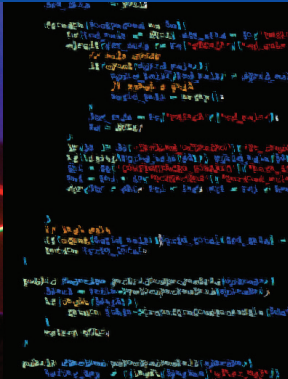
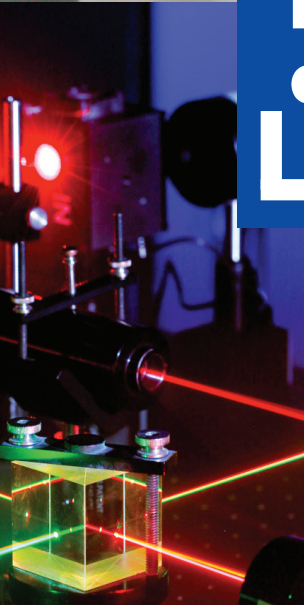
These skills, because they have great importance in the way people deal with situations, are highly valued by employers. The expression "soft skills" is sometimes used as an equivalent to "Transversal Competences", especially in the context of the labor market.

Ciências offers to its students several options according to the nature of the training, course units, courses and other initiatives - find all the information in [Soft Skills@Ciencias](mailto:SoftSkills@Ciencias)





CIÊNCIAS
research
day 26 October
2022



Why a Master's Degree in Ciências?

Ciências offers master's degrees in the various domains of exact and natural sciences, allowing the students to strategically manage their academic and professional path, either by specialization or diversification of their knowledge.

Whenever possible, learning happens in a research context and in direct contact with state-of-the-art methodologies, techniques and instrumentation. Besides the specific scientific and technological knowledge of each course, the master's degrees in Ciências allow to develop a set of cross-sectional skills which are professionally differentiating and recognized by employers.

In Ciências, there is a very strong proximity between students and teachers / researchers, creating a stimulating academic environment. This proximity eases the preparation of highly-qualified professionals, able to solve the current scientific and technological challenges while making citizens aware of the global priorities and with an active role in sustainable development.

- Critical thinking and intellectual autonomy
- Entrepreneurial and innovative attitude
- Polivalence, resilience and ability to solve complex problems
- Planning and development ability
- Research, selection and information analysis capacity
- Management, organization and efficient communication of results capacity
- Teamwork and mutual help

Together with its R&D units, Ciências participates in several international cooperation networks, so that students may carry out part of their studies in foreign higher education or research institutions. This close international collaboration reinforces Ciências' position as a benchmark institution in crucial areas for the progress of society and offers its students an infinite world of opportunities.



5800+ students

550+ teachers and researchers | **160+** support staff



17 bachelor's degrees | **40+** master's degrees | **20+** PhDs



56 academic merit awards | **110** honourable mentions



11 buildings | **10** departments | **19** R&D Units

318 teaching and research laboratories

15 000+m² of green spaces | **1** field station



10+ bars / cafeterias / restaurants / dining areas



6 libraries | **9** student spaces



30 informatics laboratories

Wi-Fi network in the entire campus



175 Erasmus+ agreements with **24** countries

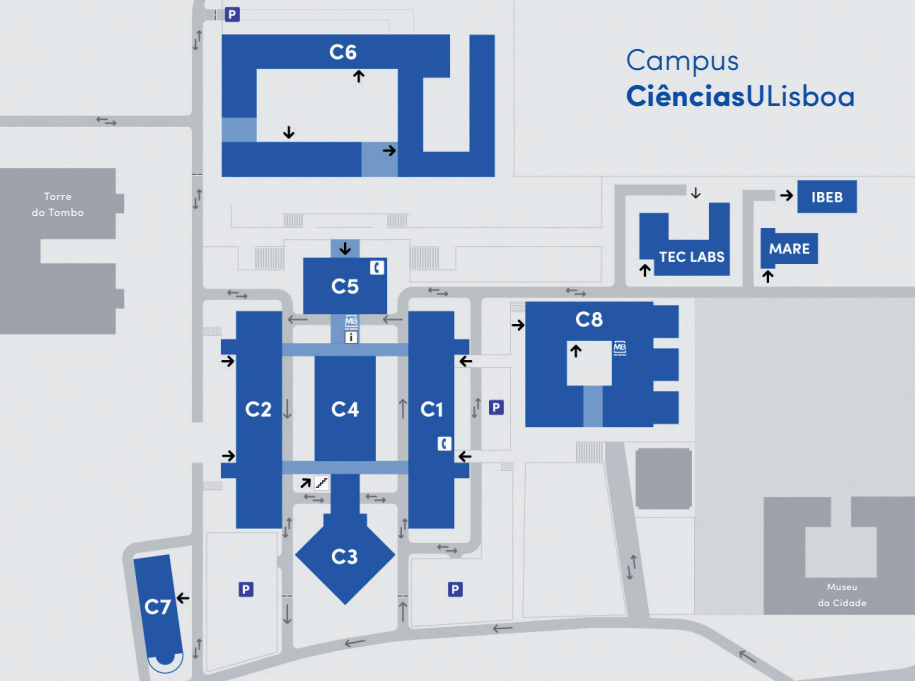


1788 solar panels | **566 000+**kWh produced



290 recycling structures

1 composting station | **1** vermicomposting station



TRANSPORTS

Carris 701 | 717 | 731 | 735 | 736 | 738 | 747 | 750
755 | 764 | 767 | 768 | 778 | 783 | 796 | 798

Rodoviária de Lisboa 201 | 300 | 311 | 312 | 313 | 315
329 | 331 | 333 | 334 | 335 | 336
337 | 344 | 353 | 354 | 901 | 931

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