

JUNIA

SCIENCE AND TECHNOLOGY
FOR A SUSTAINABLE FUTURE

Welcome a JUNIA professor

- Health and environment
- Agriculture and landscape
- Food sciences
- Building and urban environment
- Computer science and mathematics
- Smart systems and energies
- Electronics, physics and acoustics

26-27



Outgoing teaching offer



Language of Instruction:
English, French



Mobility may be eligible
for Erasmus funding,
if available



Meals and lodging covered
by JUNIA when applicable



Travel expenses covered
by JUNIA when applicable



Interested people should get in contact
with international.cooperation@junia.com

*If you have questions concerning a course,
the international office can put you in contact
with the relevant academic staff.*

junia.com

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The International Office will connect you to the relevant academic staff.**

26-27

Outgoing teaching offer



Number of
teaching hours



Ideal
Period



Level



Language



Blended/Virtual
mobility






HEALTH AND ENVIRONMENT

Monitoring of Environmental Pollutants / Soil & GW Quality Investigation	8h - 12h	Open to discussion	Master	English or French	Open to discussion
Contaminated Land Issues / Polluted Sites Management / Remediation Techniques	8h - 12h	Open to discussion	Master	English or French	Open to discussion
Soil Ecology and Ecosystem Services	8h - 12h	Open to discussion	Master	English, French or Spanish	Open to discussion
Gentle Remediation Techniques: Phytoremediation/ Phytomanagement	8h - 12h	Open to discussion	Master	English, French or Spanish	Open to discussion
Pollutants: Origins, Behaviour, Pollutants Chemistry	8h - 12h	Open to discussion	Master	English, French or Spanish	Open to discussion
Drinking Water Treatment Techniques	8h - 12h	Open to discussion	Master	English or French	Open to discussion
Water Quality and Chemistry	8h - 12h	Open to discussion	Master	English or French	Open to discussion

AGRICULTURE AND LANDSCAPE

Plant Breeding and Genetics (Breeding methods and Biotechnologies used in Plant Breeding)	8h	Open to discussion	Master	English or French	Open to discussion
Biocontrol for Sustainable Crop Protection (Biocontrol of Plant Pathogens Using Microorganisms and Natural Substances; Plant Immunity and Induced Resistance in Plants Against Plant Pathogens)	8h	Open to discussion	Master	English or French	Open to discussion
French Livestock Systems	2h - 8h	Open to discussion	Master	English or French	Open to discussion
Milk Production and Dairy Chain	4h - 12h	Open to discussion	Master	English or French	Open to discussion
Quality Signs in Agricultural Products in France	4h - 8h	Open to discussion	Master	English or French	Open to discussion
Climate Change and Agriculture (Climate Collage Serious Game 3 - 4h + 2 Tons Workshop 3-4h) + Impacts of CC on Agriculture in France 4h)	4h - 12h	Open to discussion	BSc 3 or Master	English or French	Open to discussion
Livestock Production Systems and Animal Welfare	3h - 4h	Open to discussion	BSc 3 or Master	English or French	Open to discussion
Animal Welfare	4h - 12h	Open to discussion	BSc 3 or Master	English or French	Open to discussion






Outgoing teaching offer

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AGRICULTURE AND LANDSCAPE					
Climate Fresk	3h	Open to discussion	Bachelor or Master	English or French	No
Overview of French Agricultural Practices: Current Situation/CAP/Crop Fertilization/Industrial Crops	16h	Oct. - Nov.	Master	French	No
2 Tons Workshop	3h - 3h30	Open to discussion	Bachelor, Master or Staff	English or French	No
One-Health Workshop	3h	Open to discussion	Master or Staff	English or French	Open to discussion
Environmental Impact of Agriculture	2h	Open to discussion	Bachelor, Master or Staff	English or French	Open to discussion
Codesign Workshop (Any Topic Related to Agriculture and Landscape - Solution Oriented Approach)	4h	Open to discussion	Bachelor, Master or Staff	English or French	No
Agrifood Chains	4h - 8h	Open to discussion	Master	English or French	Open to discussion






FOOD SCIENCES					
Food Safety Management Systems	8h - 16h	Open to discussion	Master	English or French	No
HACCP and Prerequisite Programs	8h - 16h	Open to discussion	BSc 3 or Master	English or French	No
Sensory Evaluation	8h - 24h	Open to discussion	BSc 3 or Master	English or French	No
Nutrition Applied to Food Companies, French Gastronomy, Cooking Workshop, Sensory Evaluation	8h - 16h	Open to discussion	Master	English or French	No
Design of Experiments	12h - 24h	Open to discussion	Master	English or French	No
Dairy Processings	4h - 8h	Open to discussion	BSc 3 or Master	English or French	No
Food and Industrial Fermentation	4h - 12h	Open to discussion	Master	English or French	No

Outgoing teaching offer

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FOOD SCIENCES					
Unit Operations	8h - 16h	Open to discussion	BSc 3 or Master	English or French	No
Introduction to ERP (Using a SAP Simulation Platform)	8h - 24h	Open to discussion	BSc 3 or Master	English or French	No
Introduction to the Agri-Food Sector in Europe	4h - 8h	Open to discussion	BSc 3 or Master	English or French	No
Introduction to R&D and Innovation : R&D Methodology, Ingredients / Labeling Regulation, Clean Label	8h - 16h	Open to discussion	BSc 3 or Master	English or French	No
Quality Approach	4h - 12h	Open to discussion	BSc 3 or Master	English or French	No
Brewing Process	4h - 8h	Open to discussion	BSc 3 or Master	English or French	No
Food Defense	2h - 6h	Open to discussion	Master	English or French	No
Food Characterization: Motivation + Physico-Chemical Techniques	4h - 6h	May - July	BSc 3 or Master	English or French	No
Microbial and Biochemical Aspects of Fermented Foods	4h - 8h	Open to discussion	BSc 3 or Master	English or French	No
Food Microbial Shelf Life & EU Microbiological Criteria	2h - 6h	Open to discussion	BSc 3 or Master	English or French	No
Introduction to Microbiology in Food Science	4h - 8h	Open to discussion	BSc 3	English or French	No
BUILDING AND URBAN ENVIRONMENT					
Urban Design Thinking	4h - 8h	January - July	BSc 3 or Master	English, French or Spanish	No
Low Tech and High Tech for Sustainable Cities	2h - 4h	January - July	BSc 3 or Master	English, French or Spanish	No
Smart Cities and Smart Building	10h	Open to discussion	Master	English or French	Open to discussion
Building Information Modeling (BIM) fundamentals	8h - 15h	Open to discussion	BSc 3 or Master	English or French	Open to discussion

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BUILDING AND URBAN ENVIRONMENT					
Smart Management System	8h - 15h	Open to discussion	BSc 3 or Master	English or French	Open to discussion
Revit Software	20h - 25h	Open to discussion	BSc 3 or Master	English or French	Open to discussion
Digital Twins	4h - 8h	Open to discussion	BSc 3 or Master	English or French	Open to discussion
Sustainable Architecture / Construction	4h - 8h	Open to discussion	BSc 3 or Master	English or French	Open to discussion
Architecture History Culture	4h - 8h	Open to discussion	BSc 3 or Master	English or French	Open to discussion
Functional Textiles	8h	Open to discussion	Master	English or French	Open to discussion
Technical & Smart Textiles	8h	Open to discussion	BSc 3 or Master	English or French	Open to discussion
Fibrous Materials	8h	Open to discussion	BSc 2, BSc 3 or Master	English or French	Open to discussion
Advanced Technical Textile	8h	Open to discussion	Master	English or French	Open to discussion

COMPUTER SCIENCE AND MATHEMATICS					
Applications of Markov Chains and Random Processes	8h - 12h	Open to discussion	BSc 2, BSc 3 or Master	English or French	Open to discussion
Modern Cryptography (Elliptic Curves, Post-Quantum, etc.)	8h - 12h	Open to discussion	Master	English or French	Open to discussion
Pentesting	8h - 20h	Open to discussion	Master	English or French	Open to discussion
Modeling Techniques in Mixed-Integer Linear Programming	8h	Open to discussion	BSc 3 or Master	English or French	No
AI : Machine Learning and Deep Learning	8h	Nov. to April or Dec. to May	Master	English	No
AI : Reinforcement Learning	8h	Nov. to April or Dec. to May	Master	English	No

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COMPUTER SCIENCE AND MATHEMATICS

Computer Vision	8h	Nov. to April or Dec. to May	Master	English	No
Hardware AI : CUDA Programming	8h	Nov. to April or Dec. to May	Master	English	No
Generative AI and LLM	8h	Nov. to April or Dec. to May	Master	English	No

SMART SYSTEMS AND ENERGIES

AI Application and Electric Power Management in Smart Grids	12h	March - June	Master or Staff	English	No
Power System Modelling Using DlgSILENT PowerFactory and PowerWorld Software	12h	March - June	BSc 3 or Master	English	No
Power Electronics Applied to Renewable Energy Systems	9h	March - June	Master	English	No
Photovoltaic Systems	9h	June - July	BSc 3, Master or PhD	English	No
Smart Grids, Energy Management , P2A Energy Exchange	8h - 12h	Open to discussion	BSc 3 or Master	English	Open to discussion

ELECTRONICS, PHYSICS AND ACOUSTICS

Geometric Optics, Mechanics, Thermodynamics, Electromagnetism, Wave Physics, Quantum Mechanics	8h - 30h	Open to discussion	Bachelor	English or French	No
Special Relativity, General Relativity, Astronomy, Cosmology	8h - 30h	Open to discussion	Master	English or French	No
Integrated Circuit Design Using Cadence (Labs)	8h - 30h	Open to discussion	Master	English or French	No
Mixed-Signal Circuits for Audio Applications (Delta-Sigma ADC, Class-D Amplifiers): Hands-on Course	8h - 30h	Open to discussion	Master	English or French	No
Hardware for Artificial Intelligence	8h	Sept.	Master	English or French	Open to discussion
Introduction to Microcontrollers Achitecture and Assembly Language (Microchip PIC18 Case Study)	8h - 12h	Open to discussion	BSc 2 or BSc 3	English or French	No

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