



# AGROECOLOGY

One semester from September to January  
**Rennes, FRANCE**

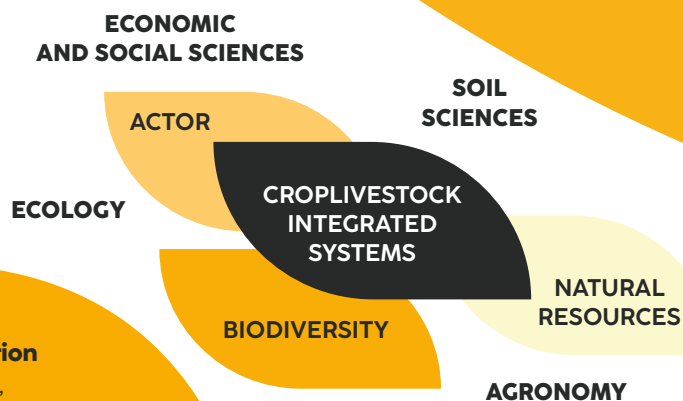
Our programme prepares students  
for a **WIDE RANGE OF MISSIONS:**

- Emphasise positive interactions within agroecosystems in order to propose agroecological practices which encourage functional biodiversity and appropriate crop rotations and help the natural regulation of populations and the management of bioaggressors,
- Manage soil quality and complete biogeochemical cycles by developing synergies between livestock farming and crops,
- Develop a systemic vision of agroecosystems to support, improve and increase farm sustainability,
- Evaluate farm sustainability through multicriteria assessment including biodiversity, natural resources and the society,
- Help farmers to evaluate the relevance of their practices and compare their practices to those from other farmers, and encourage farmers to design possible changes,
- Reflect and open up to new ideas while considering the goals, needs and interests of the stakeholders,
- Contribute to the development of transdisciplinary research in agroecology.

Join our **AGROECOLOGY** programme for 1 semester as an exchange student and **get 30 ECTS!**

Our Agricultural Engineering M.Sc. in **AGROECOLOGY** is based on a transdisciplinary approach of agroecosystems with a highlight on agronomical, ecological, environmental, economic and social issues.

Emphasis is given to the integration of disciplines focusing on crop-livestock integrated systems that value and preserve biodiversity.



## TEACHING UNITS (TU)

**TU 1. (2 ECTS)** The challenges of Agroecology

**TU 2. (3 ECTS)**

Global socio-economical analysis

- Global socio-economical analysis
- Agroecology: economic approach and public policies

**TU 3. (6 ECTS)**

Theoretical bases of agroecosystem functioning

- Biodiversity in agroecosystems
- Soil quality and ecosystem services
- Landscape management and biogeochemical flows
- Basics on animal science and livestock farming
- Ecological theories and biodiversity measurement

**TU 4. (2 ECTS)**

Sustainability, analysis of agroecological agroecosystems

- Farming systems sustainability assessment

**TU 5. (6 ECTS)**

Agroecosystem Management Levers in Agroecology

- Agroecological management of forage resources
- Agroecological management of soil quality
- Agroecological management of plant health
- Plant breeding in agroecology

**TU 6. (4 ECTS)**

Plant, Soil, Animal interactions

- Plant, soil, animals interactions analysis
- Pasture model and scenarisation
- Agroecology consultancy

**TU 7. (3 ECTS)**

Statistical and spatial engineering tools

- Statistical tools for data processing
- Spatial analysis and GIS
- Modelling applied to agroecology

**TU 8. (2 ECTS)** Professional Project & Bibliographical Report

**TU 9. (2 ECTS)**

Languages

- English
- German, Spanish, or Italian...

## PROGRAMME FEATURES

- Individual and group-based learning
- Short projects on experimental sites and a transdisciplinary project on a real farm
- Active participation of professionals and scientific partners
- All courses in English

## SUPPORT

- Single Welcome Desk
- Free French Language Courses
- Housing Support

### Application Deadline

June 15th

### Requirements

**Bachelor's degree** with a background in Agronomy, Crop science, Animal science, Soil science, Ecology, Economic and Social sciences.

**B2 level** English proficiency.

### More info & Registration

<https://international.institut-agro-rennes-angers.fr>  
[student.mobility@agrocampus-ouest.fr](mailto:student.mobility@agrocampus-ouest.fr)

### Training Officials

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## TEACHING STAFF

Plant Sciences applied to Agriculture and Horticulture

S. Menasseri, E. Le Cadre, O. Godinot, A. Laperche, M. Carof & M. Manzaneres-Dauleux

Physical Environment, Landscape Architecture & Territorial Development

G. Pérès, C. Darrot, P. Boudes, A. Jaffrezic, C. Walter, B. Lemerrier, D. Michot & Z. Thomas

Ecology

M. Plantegenest, F. Val, A. Le Ralec, J. Haury, C. Le May, D. Barloy & F. Hamelin

Animal & Food Sciences

A.L. Jacquot, J. Flament & Y. Le Colzer

Economics, Management & Society

A. Carpentier, C. Laidin & A. Ridier

Statistics

M. Emily

