

# Official Inter-University Master's Degree

## "Agroecology: An Approach to the Sustainable Transformation of Agri-Food Systems"

International University of Andalucía (UNIA)

University of Cordoba (UCO)

Pablo de Olavide University (UPO)

### 2023-4 Programme

#### **Directors:**

David Gallar Hernández (UCO - ISEC)

Manuel González de Molina (UPO)

The Master's Degree "Agroecology: An Approach to the Sustainable Transformation of Agri-Food Systems" is organized in two phases: a first virtual phase, from November 6 to December 15, 2023, and a face-to-face phase at the Antonio Machado campus of the International University of Andalusia in Baeza, from January 8 to April 19, 2024.

The online phase corresponds to the subject "Concepts and Principles of Agroecology." Through a series of readings, thematic discussions will be held in the course Moodle, as well as a final project for individual reflection on some of the issues analyzed.

The in-person phase is structured into eleven required subjects and two optional subjects, each lasting one week. Classes are held Monday through Friday, almost always in the morning from 9 a.m. to 2:30 p.m.; some subjects have field trips and some afternoon activities; each subject also offers the option of tutoring with faculty and group seminars.

This program outlines each subject, including the person responsible, the participating faculty, and the content. The subjects include theoretical content and a series of practical exercises, including field trips in some subjects.

The evaluation methods and deadlines will be communicated in advance for each subject.

## 1. Virtual Course: “Concepts and Principles of Agroecology”

Total ECTS credits: 5 credits

Subject Type: Compulsory

Dates: November 6 to December 15, 2023

Name of the Lead Professor: Isabel Vara Sánchez (University of Córdoba - Institute of Sociology and Rural Studies – ISEC)

Participating Faculty:

1. David Gallar Hernández (Universidad de Córdoba – ISEC)
2. Isabel Vara Sánchez (Universidad de Córdoba – ISEC)
3. Gloria Guzmán Casado (Universidad Pablo de Olavide)
4. Grupo de trabajo “Feminismo y agroecología”

Summary of the course program:

1. An approach to agroecology from its social and agronomic foundations. 2. Approaches from an ecological perspective: economics, politics, and ecofeminism.
3. Questions and debates on the multidisciplinary and transdisciplinary nature of both components, demonstrating the nature of the connections.
4. An approach to the processes of agroecological transition and transformation, and biological and cultural diversity.
5. An introduction to reflection on consumption and the agri-food system.
6. An understanding of agroecological experiences and their degrees of institutionalization, understanding the role of social certification experiences.
7. An understanding of development as a Western belief and its economic implications.

## 2. Sociological Foundations of Agroecology

Total ECTS credits: 3 credits

Subject type: Compulsory

Dates: January 8-12, 2024

Names of the Lead Professors: Ángel Calle Collado (Ecojerte Cooperative - ISEC) and David Gallar (University of Córdoba - ISEC).

Participating Professors:

1. Ángel Calle Collado (Ecojerte Cooperative - ISEC)
2. David Gallar Hernández (University of Córdoba - ISEC)

### 3. Yayo Herrero (FUHEM - Ecologists in Action)

#### Summary of the Course Program

1. From Social Sciences to Agroecology: structure, culture, and basic needs; networks, individuals, and collective action; power, domination, and agency; nature and society; inequalities and social stratification; socialization, conflict, and social change.
2. Basic paradigms of Social Theory: constructivism, structuralism, and functionalism. Conceptual application to natural resource management. 3. Introduction to Ecological Anthropology, Environmental Sociology, and Environmental History: Toward an Ecology of Difference.
4. The ecosocial approach from Systems Theory. Contemporary critiques of power and the colonization of social action in the satisfaction of basic needs. Social metabolism: relationships between society and nature from the perspective of Agroecology.
5. The perspective of social change for Agroecology. The construction of sociotechnical models for the analysis of social transitions toward a sustainable agri-food system.
6. Complex and comprehensive perspectives: a feminist approach to agroecology

### **3. Ecological bases of agroecology**

Total ECTS credits: 3 credits

Subject type: Compulsory

Dates: January 15-19, 2024

Name of the Lead Professor: Antonio Gómez Sal (University of Alcalá de Henares)

Participating faculty:

1. Manuel González de Molina (Pablo de Olavide University)
2. Antonio Gómez Sal (University of Alcalá de Henares)
3. Roberto García Ruiz (University of Jaén)

#### Summary of the course program:

1. Structure and functions of agroecosystems.
2. Ecosystem functions.
3. Nutrient cycles and energy flows.
4. Introduction to plant biodiversity.
5. Landscape ecology.

## 4. Agronomic bases of agroecology

Total ECTS credits: 3 credits

Subject type: Compulsory

Dates: January 22-26, 2024

Name of the Lead Professor: Gloria Guzmán Casado (Pablo de Olavide University) Participating faculty:

1. Gloria Guzmán Casado (Pablo de Olavide University)
2. Roberto García Ruiz (University of Jaén)
3. Yolanda Mena (University of Seville)

Summary program of the subject:

1. Soil management, soil quality, and plant health.
2. Ecological management of weed flora in agroecosystems.
3. Introduction to plant biodiversity and pest management.
4. The role of animals in agroecosystems.
5. Bases on which management and health in organic livestock farming are based 6. Transdisciplinary research applied to the design of technologies that increase the sustainability of agroecosystems

## 5. Feminist approaches to agroecology

Total ECTS credits: 3 credits

Subject type: Compulsory

Dates: January 29 to February 2, 2024

Name of the Lead Professor: Emma Siliprandi (FAO)

Participating faculty:

1. Emma Siliprandi (FAO)
2. David Pérez Neira (University of León)
3. Irene García Roces (ISEC)
4. Marta Soler Montiel (University of Seville)

Summary program subject:

1. Feminist theoretical foundations for a non-androcentric agroecology 2. Intersectionality and food, the three biases of the Western perspective 3. Feminist economics and agroecology: theoretical foundations and indicators for analysis

4. Political subjects and feminist and agroecological social movements
5. Masculinities and agroecology
6. Non-hegemonic feminisms
7. Domestic groups, communities, and work in agroecology
8. Strategies, proposals, and questions about how to participate, support, raise awareness, and research agroecology from a feminist perspective.

## 6. Agroecological Methodologies (I)

Total ECTS credits: 4 credits

Subject type: Compulsory

Dates: February 5-9, 2024

Name of the Lead Professor: David Gallar Hernández (University of Córdoba - ISEC)

Participating faculty:

1. David Gallar Hernández (University of Córdoba - ISEC)
2. Mamen Cuéllar Padilla (University of Córdoba - ISEC)
3. Isabel Vara Sánchez (Institute of Sociology and Peasant Studies - ISEC)

Summary of the course program:

1. General and applied epistemology
2. Interdisciplinarity and dialogue of knowledge for complex social problems versus disjointed scientism
3. Quantitative and qualitative methodologies
4. Levels of analysis in agroecology
5. Research perspectives in agroecology
6. Science with people
7. Social research techniques for agroecology:
8. Participatory action research and the collective design of social transformation strategies.

## 7. Agroecological Methodologies (II)

Total ECTS credits: 3 credits

Subject type: Compulsory

Dates: February 12-16, 2024

Name of the Lead Professor: Juan Infante Amate (Pablo de Olavide University) Participating faculty:

1. Juan Infante Amate (Pablo de Olavide University)
2. Eduardo Aguilera (Polytechnic University of Madrid)
3. Gloria I Guzmán Casado (Pablo de Olavide University)

Summary program of the course:

1. Main methodologies for the analysis of agrarian systems
2. Non-experimental research: its importance in the analysis of agroecological systems
3. Methods for the analysis of data in non-experimental research
4. Non-experimental research and agroecology
5. Methodologies for studying biodiversity
6. The socioeconomic balance in agricultural production processes
7. The energy balance in agricultural production processes
8. Assessment of agricultural sustainability (I): Social metabolism and life cycle analysis
9. Assessment of agricultural sustainability (II): Energy analysis, cost-benefit analysis, and the ecological footprint

## 8. Agroecological Transitions

Total ECTS credits: 3 credits

Subject type: Compulsory

Dates: March 19-23, 2024

Name of the Lead Professors: Gloria Guzmán Casado (Pablo de Olavide University) and Ernesto Méndez (University of Vermont, USA)

Participating Faculty:

1. Ernesto Méndez (University of Vermont, USA)
2. Gloria Guzmán Casado (Pablo de Olavide University)
3. Manuel González de Molina (Pablo de Olavide University)

Summary of the course program:

1. Introduction. Agroecological transition as a participatory process.
2. The agroecological transition in Europe.
3. Design and development of agroecological transition strategies in Andalusia.
4. Design and development of agroecological transition strategies in Latin America. 5. On-farm agroecological transition: long-term studies and sustainability indicators.

6. Agroecological transition and markets: cases of social consumption in Andalusia and CAM in California.

7. Research into agroecological transition processes

## 9. Biocultural Diversity

Total ECTS credits: 3 credits

Subject type: Compulsory

Dates: February 26 to March 1, 2024

Name of the Lead Professor: Narciso Barrera-Bassols (Autonomous University of Querétaro, Mexico)

Participating faculty:

1. Narciso Barrera-Bassols (Autonomous University of Querétaro, Mexico)
2. José María Egea Fernández (University of Murcia)
3. Isabel Vara Sánchez (ISEC – University of Córdoba)

Summary program of the course:

1. Concepts and types of biodiversity.
2. Ecological and sociocultural biodiversity.
3. Local knowledge, culture, and agrarian biodiversity.
4. Management, conservation, and use of biodiversity in peasant production systems. 5. Biodiversity management with respect to the ecology of flora and fauna and biological pest control.

## 10. Ecological Economy

Total ECTS credits: 3 credits

Subject type: Compulsory

Dates: March 4-8, 2024

Name of the professor in charge: Manuel Delgado Cabezas (University of Seville) Participating faculty:

1. José Manuel Naredo (Polytechnic University of Madrid)
2. Esther Velázquez Alonso (Pablo de Olavide University)
3. Manuel Delgado Cabezas (University of Seville)

Summary program of the subject:

1. Theoretical and historical approaches to economy-environment relations. 3. Environmental economics: valuation methods.

2. Ecological economics: principles and instruments
3. Indicators of economic-ecological sustainability.
4. The metabolism of economic systems: agrarian, urban, and industrial.
5. Economic-ecological criteria and instruments for resource management: water and energy.
6. The institutional framework and the analysis and decision-making process in Ecological economics.

## 11. Political Economy

Total ECTS credits: 3 credits

Subject type: Compulsory

Dates: March 11-15, 2024

Name of the Lead Professor: Manuel González de Molina (Pablo de Olavide University)

Participating faculty:

1. Manuel González de Molina (Pablo de Olavide University)
2. Francisco Garrido Peña (University of Jaén)
3. Ángel Calle Collado (Cooperativa Ecojerte - ISEC)

Summary program of the course:

2. Comprehensive analysis of the ecological crisis.
3. Critique of dominant epistemological paradigms.
4. Introduction to Political Ecology.
5. Conceptual toolbox of Political Ecology.
6. Introduction to Ecological Ethics.
7. Introduction to Institutional Design and Ethics Audits.
8. Introduction to Rational Choice Theory.
9. Theory and Typology of Environmental Conflicts.
10. Evaluation Systems and Methods in Ecological Economics.
11. Introduction to Environmental Justice.
12. Ecological Crisis and Social Inequality: The Environmentalism of the Poor.
13. Typology of Environmental Actors.
14. Social Movements (Historical and Modern) Regarding the Environmental Issue.
15. The Limits and Paradoxes of Collective Environmental Action.

## 16. New Global Movements in the Face of the Sustainability Crisis

### 12. Design & Evaluation of Sustainable Systems

Total ECTS credits: 3 credits

Subject type: Required

Dates: March 18-22, 2024

Name of the Lead Professor: Clara Nicholls (University of California-Berkeley) Participating faculty:

1. Miguel Altieri (University of California-Berkeley)
2. Clara Nicholls (University of California-Berkeley)
3. Guiomar Carranza Gallego (UNIA)

Summary of the course program:

2. The unsustainability of industrialized agriculture, livestock, and forestry. 3. The concept of sustainability in agricultural and forestry systems and externalities in production processes.
4. Foundations for the analysis and design of sustainable agroecological systems. The importance of diversification.
5. Management of programs to simulate situations of technology and natural resource management and their effect on sustainability

### 13. Sustainable Agri-Food Systems

Total ECTS credits: 3 credits

Subject type: Compulsory

Dates: April 1-5, 2024

Name of the Lead Professor: Marta Soler Montiel (University of Seville) Participating faculty:

1. Marta Soler Montiel (University of Seville)
2. Mamen Cuéllar Padilla (University of Córdoba – ISEC)
3. Isabel Vara Sánchez (University of Córdoba – ISEC)

Summary program of the subject:

1. The agri-food system and socioeconomic system. The concept of the agri-food system from an eco-integrative perspective. Different food regimes. Sociology of consumption and food
2. The agri-food system in globalization and its modes of organizing food supply: characteristics and impacts

3. International trade and the agri-food system. The food crisis, origins, and sociological and economic perspectives
4. Regulation of the agri-food system.
5. New proposals for integrating the social and economic spheres: the Social Economy and the Solidarity Economy.
6. New modes of organizing the agri-food supply: linking production and consumption from the local to the global.
7. Linking production and consumption under ethical criteria: Fair Trade.

## **14. Food Consumption from an Agroecological Perspective**

Total ECTS credits: 3 credits

Subject type: Elective

Dates: April 8-12, 2024

Name of the Professor in Charge: David Gallar Hernández (ISEC)

Summary of the subject program:

1. Chemical components in foods and packaging in the conventional agri-food system: effects on health
2. Introduction to food science and food technology applied to agroecology
3. Nutrition and organic foods
4. Consumption habits and dietary strategies for the consumption of (agro)organic products
5. Agroecological diets
6. Gastronomy in agroecology: popular cuisine and haute cuisine at the service of agroecology
7. Keys to the use of agroecological foods in cooking
8. Management of agroecological foods from the perspective of collective catering

## **15. Sustainable management of Mediterranean agroecosystems**

Total ECTS Credits: 3 Credits

Subject Type: Elective

Dates: April 8-12, 2024

Name of the Lead Professor: Gloria Guzmán Casado (Pablo de Olavide University) Participating Faculty:

1. Gloria Guzmán Casado (Pablo de Olavide University)

2. Antonio Alonso Mielgo (CIFAED)
3. Pilar Fernández Rebollo (University of Córdoba)

Summary of the Course Program:

1. Organic Olive Growing
2. Organic Horticulture
3. Organic Irrigated Fruit Growing
4. Organic Livestock Farming
5. Dehesa Management
6. Irrigated Industrial Crops
7. Sustainable Irrigation Management in Mediterranean Agroecosystems

## **16. Political agroecology: ethnicity, citizenship and democracy**

Total ECTS credits: 3 credits

Subject type: Elective

Dates: April 8-12, 2024

Name of the Lead Professor: Ángel Calle Collado (Cooperativa Ecojerte - ISEC) Participating faculty:

1. Ángel Calle Collado (Cooperativa Ecojerte - ISEC)
2. Jan Douwe van der Ploeg (University of Wageningen)
3. Marta Rivera (University of Vic)
4. David Gallar Hernández (University of Córdoba - ISEC)

Summary of the course program:

1. Bifurcations and disaffections in contemporary democracies: open debates on the role of citizenship, political participation, and organizational systems in building sustainable rural and urban development.
2. Classical approaches to democracy: socialism, liberalism, and anarchism. Discourses on context, form, and content; actors, practices, and historical legacies.
3. The postmodern critique of democracy: agency and post-structuralist approaches, contemporary theories of power and social change, post-development, and democracy.
4. Critical networks, social movements, and expressions of radical democracy. Analysis of contemporary forms of satisfying basic needs "from below."
5. The construction of democracy: from everyday life to public policies, from power to sustainable alternatives, from the situation and territory to the global scale, from domination to forms of participation that leverage biocultural diversity.

## 17. Rural development vs Post-development

Total ECTS credits: 3 credits

Subject type: Elective

Dates: April 15-19, 2024

Name of the Lead Professor: Isabel Vara (University of Córdoba – ISEC) Participating faculty:

1. Silvia Pérez Vitoria (La ligne d'horizon)
2. Daniel López García (CSIC)
3. África Jiménez Ruiz (ISEC)

### Summary program of the subject:

1. Basic concepts of development and their application to agriculture and rural societies.
2. Development theories in conventional and alternative scientific thought.
3. Historical forms of rural development; their emergence in the transnational organization of states and in experiences of alternative contestation: community development, integrated rural development, and sustainable rural development.
4. The eco-technocratic discourse of sustainability: development as the history of a Western belief.
5. Rural and urban local development. Born from within: endogenous development.
6. Agroecology as sustainable rural development.
7. Post-development.

## 18. Public policies for agricultural sustainability

Total ECTS credits: 3 credits

Subject type: Elective

Dates: April 15-19, 2024

Name of the Lead Professor: Paulo Petersen (ASPTA)

Participating faculty:

1. Paulo Petersen (ASPTA)
2. Manuel González de Molina (Pablo de Olavide University)
3. Daniel López García (CSIC)

### Summary of the course program

1. Concepts of public policy and public goods. Actors and relationships.
2. The Reference Framework for Agroecology Research in Brazil: process of construction and social participation.

3. The National Policy on Technical Assistance and Rural Extension in Brazil: participatory process of construction, progress, and challenges in implementation.
4. The experience of the Andalusian Plan for Ecological Agriculture: institutional and political limits for the implementation of a policy.
5. Policies to Strengthen Family Farming in Brazil. 6. Institutional Purchasing and Consumption Programs as a Boost for Family Organic Farming: Experiences in Brazil and Andalusia.
7. Legal Framework for Organic Product Certification: Third Party versus GSP. 8. Methodologies for the Development and Participatory Discussion of Promotion Plans and Other Public Policies.
9. Evaluation Systems for Public Policies and Strategic Plans

## 19. Agroecological Extension

Total ECTS credits: 3 credits

Subject Type: Elective

Dates: April 15-19, 2024

Names of the Lead Professors: Jaime Morales Hernández (ITESO-Guadalajara, Mexico) and David Gallar Hernández (University of Córdoba - ISEC)

Participating Faculty:

1. Jaime Morales Hernández (ITESO-Guadalajara, Mexico)
2. David Gallar Hernández (University of Córdoba - ISEC)
3. Miguel Ángel Escalona (University of Veracruz - Mexico)

### Summary of the Course Program

1. Theoretical Frameworks of Agricultural Extension: Rural Sociology and Alternative Agrarian Social Thought as Contexts
2. From the Chayanovian Perspective of Agricultural Extension to Agroecological Extension
3. The social construction of knowledge: convivial technologies and self-diagnosis of agronomic, economic, and social needs.
4. Knowledge construction: participatory methodologies for agroecological extension.
5. Systematization of experiences as a methodology for self-diagnosis and network strengthening. OSALA
6. Social articulations for the collective construction of knowledge

## **Contact Persons**

Master's Academic Directors: David Gallar (david.gallar@uco.es) and Manuel González de Molina (mgonnav@upo.es)

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