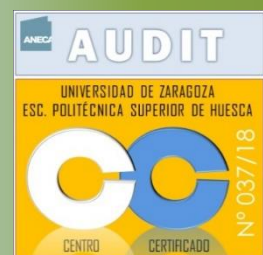


Technological College

Agri-food and Environment



**Escuela Politécnica
Superior - Huesca
Universidad Zaragoza**



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For a digital version (November 2020), see: <https://eps.unizar.es/conocenos>

About us

The **University of Zaragoza**, of which the Technological College forms part, is a public institution for research and higher education to the benefit of society, combining a five-century-old tradition with constant updating of its teaching programmes [+33.600 students / 4.300 professors].

The **Technological College**, a College of Science, Technology and Engineering which has provided superb educational opportunities in a supportive learning environment for over 25 years, is located in the city of Huesca campus.

The main objective of the Technological College is to train people to actively contribute to the progress of society. We are an approachable educational establishment because we firmly believe that communication between the university and society needs to be close and constant.



The way to achieve this goal is responsibly carrying our duty as a university: provide the society that sustains it with the highest standards in education, research and cultural dissemination.

We therefore offer exemplary scientific training, strong links with companies, and worldwide mobility programmes.

Find us

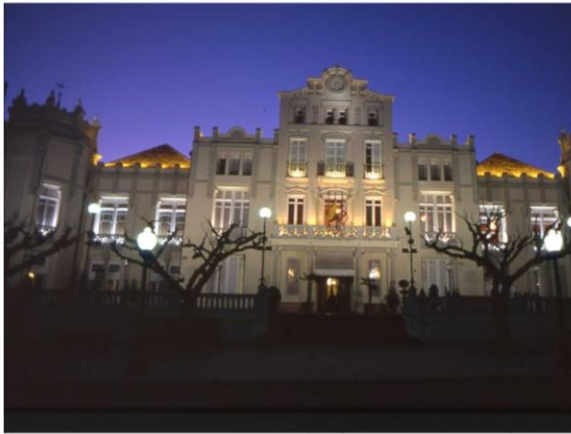


The Technological College is located 3 km from the city centre of Huesca.

(42° 7' 12.78" N, 0° 26' 49.04" W)

At an altitude of 460 metres, Huesca is just 70 km from the city of Zaragoza and offers the enjoyment of privileged natural surroundings: the mountain ranges of Gratal, Guara and the Pyrenees, in sharp contrast with the arid plains of Monegros. It is the capital city and geographic centre of the Upper Aragon region, cradle of the old Kingdom of Aragon, with an excellent strategic position at an important hub of communications between the regions of Navarre (Pamplona) and Catalonia (Lleida, Barcelona), and between France and Zaragoza.

Huesca has approximately 50,000 inhabitants, and its economy focuses on the sectors of public administration, agriculture and services. It is a peaceful, welcoming city with a high quality of life and an impressive offer of leisure and culture events. Since 1354, when King Pedro IV founded the so-called Sertorian University in Huesca, the city has strived to be a seat of learning. Today, 4,000 students distributed in the fields of humanities, medicine and health-related areas, economics, sciences and engineering, share this very special environment.



Study Programmes

At the **Technological College**, also known as the Green Campus of the University of Zaragoza, we train engineers and scientists who are strongly committed to environmental stewardship in the development of rural areas and the agricultural sector.

Bachelor degrees:

- Degree in Environmental Sciences (240 ECTS credits – 4 years)

- Degree in Rural and Agri-Food Engineering
(240 ECTS credits – 4 years)

with three areas of specialisation:

- Agricultural and Livestock Farming
- Agricultural and Food Industries
- Horticulture, Fruit-farming and Gardening

- Double degree in Rural and Agri-Food Engineering and Food Sciences and Technology

Post-graduate studies:

- Master in Agricultural Engineering (90 ECTS credits – 1.5 years)

Other options include [private studies](#):

- Private Master Degree in Sustainable Water Management
- University Expert in Integrated Management of Agriculture Pest



DEGREE IN ENVIRONMENTAL SCIENCES

The **Degree in Environmental Sciences** addresses society's current need to develop methods and tools to study and protect our environment.

The Technological College makes use of its surroundings as an excellent natural laboratory to train graduates in Environmental Sciences. The connection between an urban area and the various surrounding sites of scientific interest in the province of Huesca gets the students closer to the kind of case study that they are going to deal with and facilitates acquisition of practical skills.

The vicinity of these natural areas allows the student to observe very different scenarios, from the more arid regions of the middle Ebro Valley, to the high precipitation rates and extreme temperature regime of the Pyrenees. In addition, they can look at areas with a wide range of environmental problems created by industry and industrial-scale agriculture, ranching and urban activity.

The main objective of the Degree in Environmental Sciences is training versatile professionals with a deep knowledge of natural resources which may be affected by human activity. This enables them to face a broad range of duties, such as management of environmental quality within a company or carrying out environmental studies on aspects related to healthy ecosystems in the agricultural, urban and industrial areas.

<http://eps.unizar.es/en/degree-environmental-sciences>

SYLLABUS

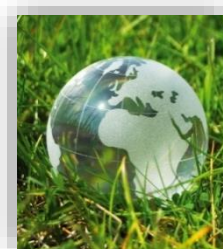
The Degree in Environmental Sciences corresponds to level 2 of the Spanish Qualifications Framework for Higher Education (MECES) and to level 6 of the European Qualifications Framework (EQF). The Study Plan consists of **240 European credits** (ECTS) distributed into **4 academic years** (60 credits per academic year), with two semesters per academic year (8 semesters).

The syllabus is made up of four modules:

• Interpretation of the environment as a system	• Environmental assessment
• Environmental management and planning	• Instrumental knowledge

Subjects fall into these categories:

- Basic subjects (66 ECTS)
- Compulsory subjects (132 ECTS)
- Electives (28 ECTS)
- Undergraduate dissertation (12 ECTS)
- Modern language-B1 (2 ECTS)



There are sixteen electives and the students have to select five of them during the last three semesters. The Undergraduate dissertation has to be done during the last semester of the degree studies.

SUBJECTS – DEGREE IN ENVIRONMENTAL SCIENCES

For courses descriptions and further information, see: <https://estudios.unizar.es/estudio/ver?id=100>

For lectures schedules and exam calendar, see: <http://eps.unizar.es/academico/horarios-ccaa>

For a list of courses included in the English Friendly Program (EF), see: <https://eps.unizar.es/subjects-asignaturasef>

Year	Sem	Subject	Type	ECTS	EF	Year	Sem	Subject	Type	ECTS	EF
1	1	25200 - Chemical foundations of the environment	Cr	6	✓	1	2	25205 - Environmental administration and law	Cr	6	
1	1	25201 - Biology	Cr	6	✓	1	2	25206 - Physical foundations of the environment	Cr	6	✓
1	1	25202 - Introductory geology for environmental science	Cr	6	✓	1	2	25208 - Soil science	Cr	6	✓
1	1	25203 - Basic mathematics for environmental studies	Cr	6		1	2	25251 - Botany	Cr	6	
1	1	25250 - Environmental science and sustainability	Cm	6	✓	1	2	25252 - Zoology	Cr	6	✓
2	1	25211 - Ecology I	Cm	6	✓	2	2	25215 - Ecology II	Cm	6	✓
2	1	25253 - Society and land	Cm	3		2	2	25255 - Key analysis in the environment	Cm	6	
2	1	25254 - Cartography and geographical information systems	Cm	9		2	2	25218 - Soil degradation and pollution	Cm	6	✓
2	1	25214 - Meteorology and climatology	Cm	6		2	2	25219 - Atmospheric pollution	Cm	6	✓
2	1	25209 - Statistics	Cr	6		2	2	25204 - Applied economics	Cr	6	
3	1	25220 - Natural risks	Cm	6		3	2	25225 - Management and conservation of flora and fauna	Cm	6	✓
3	1	25223 - Agrosilvopastoral systems	Cm	6		3	2	25226 - Management, treatment and recovery of waste	Cm	6	
3	1	25224 - Water pollution	Cm	6	✓	3	2	25228 - Regional planning and urbanism	Cm	6	
3	1	25210 - Foundations of environmental engineering	Cm	6		3	2	25222 - Clean technologies. Renewable energies	Cm	6	✓
3	1	25256 - Toxicology and public health	Cm	6		3	2	Optional subject 1	Op		
4	1	25230 - Environmental impact assessment	Cm	6		4	2	25232 - Undergraduate dissertation	Ds	12	
4	1	25257 - Environmental management and audit	Cm	6	✓	4	2	25259 - Environment projects	Cm	12	
4	1	25258 - Protected areas	Cm	6	✓	4	2	Modern language B1*	Cm	2	
4	1	Optional subject 2	Op			4	2	Optional subject 4	Op		
4	1	Optional subject 3	Op			4	2	Optional subject 5	Op		

Cr: core; Cm: compulsory; Op: optional; Ds: dissertation.

First semester: September – January, Second semester: February – June.

*Students must verify that level B-1 of a foreign language (English, French, German, and Italian) is met.

Asignaturas optativas	Curso 3 / Semestre 2**	ECTS	EF	Curso 4 / Semestre 1	ECTS	EF	Curso 4 / Semestre 2	ECTS	EF
	25236 - Radioactive contamination, acoustic and vibration pollution	6	✓	25248 - Classified activities	6		25221 - Environmental education	6	✓
	25238 - Analytical technology for the detection of contaminants	6		25263 - Environmental and sustainable chemistry	6	✓	25241 - Biotechnology and resource conservation	6	
	25245 - Soil and land evaluation	6	✓	25264 - Internships	5		25267 - Bio-geography and geobotany	5	
	25260 - Waste application on soil and fertility	5		25265 - Environmental remote sensing	6		25268 - Aquatic ecosystems	6	✓
	25261 - Accreditation and quality standards in environmental laboratories	5		25266 - Ecosystem restoration	6		25269 - English for environmental sciences (taught in English)	6	✓
	25262 - Environmental hydrology	6							

**Each academic course, 3 of these 6 subjects will be active: 25238, 25245, 25262 (odd courses: 2019-20, 2021-22, etc.) and 25236, 25260, 25261 (even courses: 2020-21, 2022-23, etc.).

DEGREE IN RURAL AND AGRI-FOOD ENGINEERING

The Degree in Rural and Agri-Food Engineering sets up the student to undertake a profession regulated in Spain with specific professional attributions.

A Graduate in Rural and Agri-Food Engineering from the University of Zaragoza will be a professional capable of learning, developing and applying science and technology in the areas of specialisation listed below, while ensuring the best social, economic, and environmental conditions.

- **Agricultural and Livestock Farming**
- **Agricultural and Food Industries**
- **Horticulture, Fruit-farming and Gardening**

<http://eps.unizar.es/en/degree-agrifood>

SYLLABUS

The Degree in Rural and Agri-Food Engineering corresponds to level 2 of the Spanish Qualifications Framework for Higher Education (MECES) and to level 6 of the European Qualifications Framework (EQF). It consists of **240 European credits (ECTS)** split into **4 academic years** (60 credits per academic year), with two semesters per academic year (8 semesters).

The training is divided into:

- Basic subjects (72 ECTS)
- General compulsory subjects (72 ECTS)
- Specific compulsory subjects to each specialty (60 ECTS)
- Electives (22 ECTS)
- Undergraduate dissertation (12 ECTS)
- Modern language-B1 (2 ECTS)

The **basic and general compulsory subjects** are the same for all three specialisations and will be carried out during the first five semesters. The **specific compulsory subjects** are different for each of the three areas and are taken from the 5th to the 7th semester. However, these subjects are electives for the others two specialisations. The **electives** are to be taken during the last semester of the degree studies and are available to all specialisations. The students have to select four of them from a list of nine. The **Undergraduate dissertation**, which is compulsory, is done during the last two semesters of the degree studies.



SUBJECTS DEGREE IN RURAL AND AGRI-FOOD ENGINEERING

For courses descriptions and further information, see: <https://estudios.unizar.es/estudio/ver?id=140>

For lectures schedules and exam calendar, see: <http://eps.unizar.es/academico/horarios-iamr>

For a list of courses included in the English Friendly Program, see: <https://eps.unizar.es/subjects-asignaturasef>

Year	Sem	Subject	Type	ECTS	EF	Year	Sem	Subject	Type	ECTS	EF
1	1	28900 Mathematics I	Cr	6		1	2	28905 Mathematics II	Cr	6	
1	1	28901 Physics I	Cr	6		1	2	28906 Physics II	Cr	6	
1	1	28902 Chemistry I	Cr	6	✓	1	2	28907 Chemistry II	Cr	6	✓
1	1	28903 Computer science	Cr	6		1	2	28908 Graphic expression	Cr	6	
1	1	28904 Geology, soil science and climatology	Cr	6		1	2	28909 Biology	Cr	6	✓
2	1	28910 Statistics	Cr	6		2	2	28911 Botany	Cmg	6	
2	1	28912 Animal science I	Cmg	3		2	2	28915 Fundamentals of business administration	Cr	6	
2	1	28913 Engines and machines	Cmg	9	✓	2	2	28916 Plant science / Plant production	Cmg	6	
2	1	28914 Topography, cartography and photogrammetry	Cmg	6	✓	2	2	28917 Ecology and management of agro-industrial byproducts	Cmg	6	✓
2	1	28919 Electrical engineering and rural electrification	Cmg	6	✓	2	2	28918 Strength of materials and structural analysis	Cmg	6	✓
3	1	28920 Biotechnology	Cmg	6	✓	3	2	28925 Production of monogastric animals	Cms ALF	6	✓
3	1	28921 Hydraulics	Cmg	6	✓	3	2	28926 Herbaceous crops	Cms ALF	6	
3	1	28922 Agricultural economics	Cmg	6		3	2	28927 Fruit growing	Cms ALF	6	
3	1	28923 Projects	Cmg	6		3	2	28928 Livestock farming facilities and equipment	Cms ALF	6	✓
3	1	28924 Animal Science II	Cms ALF	6		3	2	28929 Farming: Construction	Cms ALF	6	
3	1	28936 Unit Operations I	Cms AFI	6	✓	3	2	28937 Unit Operations II	Cms AFI	6	✓
3	1	28930 Horticultural production	Cms HFG	6		3	2	28938 Fundamentals of food technology	Cms AFI	6	✓
						3	2	28939 Quality management for the agri-food industry	Cms AFI	6	
						3	2	28940 Biochemical engineering for the agri-food industry	Cms AFI	6	
						3	2	28941 Agri-Industrial construction	Cms AFI	6	
						3	2	28931 Fruit production I	Cms HFG	6	
						3	2	28932 Plant breeding in horticulture	Cms HFG	6	
						3	2	28934 Ornamental crops	Cms HFG	6	
						3	2	28947 Sustainable development and the environment	Cms HFG	6	
						3	2	28948 Engineering of green areas	Cms HFG	6	
4	1	28942 Ruminant production	Cms ALF	6		4	2	Modern language B1*	Cmg	2	
4	1	28943 Plant breeding	Cms ALF	6	✓	4	2	Optional subject 1	Op		
4	1	28944 Crop protection	Cms ALF	6	✓	4	2	Optional subject 2	Op		
4	1	28945 Irrigation and drainage systems	Cms ALF	6		4	2	Optional subject 3	Op		
4	1	28950 Agri-food Industry: Design and optimisation	Cms AFI	6	✓	4	2	Optional subject 4	Op		
4	1	28951 Processing technologies in the food industries	Cms AFI	6							
4	1	28952 Utilities and process control	Cms AFI	6							
4	1	28953 Agri-food industry installations	Cms AFI	6							
4	1	28933 Protection of fruit and vegetable crops	Cms HFG	6							
4	1	28935 Irrigation and drainage systems in horticulture and fruit farming	Cms HFG	6							
4	1	28946 Fruit production II	Cms HFG	6							
4	1	28949 Gardening and landscaping	Cms HFG	6							
4	1-2							Undergraduate dissertation	Ds	12	

Cr: core; Cmg: compulsory-general, Cms: Compulsory-specific to each specialty (ALF: Specialisation Agricultural and Livestock Farming, AFI: Specialisation Agricultural and Food Industries, HFG: Specialisation Horticulture, Fruit-farming and Gardening); Op: optional. Ds: dissertation. First semester: September – January, Second semester: February – June.

*Students must verify that level B-1 of a foreign language (English, French, German, Italian) is met.

	ECTS	EF	ECTS	EF	ECTS	EF
Optional subjects	28955 English for rural and agri-food engineering (taught in English)	6	✓	28958 Irrigation networks	6	✓
	28956 Agricultural chemical analysis	6		28959 Integrated production and agroecology	5	
	28957 Post-harvest technology	6	✓	28960 Building installations	5	✓

DOUBLE DEGREE IN RURAL AND AGRI-FOOD ENGINEERING AND FOOD SCIENCES AND TECHNOLOGY

The **CONSECUTIVE DOUBLE DEGREE IAMR-CTA** is offered taking into account the common formative nuclei of the **Degree in Agri-Food Engineering and the Rural Environment**, specialisation in Agricultural and Food Industries, IAMR (Technological College-Huesca) and **Degree in Food Science and Technology**, CTA (Faculty of Veterinary Medicine-Zaragoza). Thus, students or graduates who complete the established curricular itinerary of double degree will obtain both official university degrees. Students can access these studies once they have passed at least **180 credits of the degree of origin** (IAMR or CTA), and then **they must complete 120 ECTS, according to the established credits recognition**. The achievement of this CONSECUTIVE DOUBLE DEGREE will provide an excellent preparation to face with confidence a professional career in the agri-food industry.

<https://eps.unizar.es/en/doubledegree>

Courses of IAMR (Agricultural and Food Industries) to be taught for CTA			Courses of CTA to be taught for IAMR (Agricultural and Food Industries)		
Course	Year	Sem.	Course	Year	Sem.
Computer science	1	1	Food chemistry and biochemistry	2	1
Geology, soil science and climatology	1	1	Bromatology	2	1
Graphic expression	1	2	Food Microbiology	2	1
Statistics	2	1	Chemical analysis of food	2	2
Botany	2	2	Physical and sensory analyses of food	2	2
Engines and machines	2	1	Micro-biological analysis of food	2	2
Topography, cartography and	2	1	Nutrition and dietetics	2	2
Plant science/Plant production	2	2	Food technology I	3	1
Ecology and management of agro-	2	2	General food hygiene	3	1
Strength of materials and structural	2	2	Public health and diet	3	1
Electrical engineering and rural	2	1	Industrial cooking and collective catering	3	2
Hydraulics	3	1	Applied food hygiene	3	2
Projects	3	1	Food legislation	3	2
Biochemical engineering for the agri-food	3	2	Milk and egg product technology	4	1
Agri-Industrial construction	3	2	Meat and fish technology	4	1
Agri-food Industry: Design and	4	1	Oenology	4	1
Utilities and process control	4	1	Management of food safety	4	1
Agri-food industry installations	4	1	Pilot plant practical classes	4	2
Modern language B1 (2 ECTS)	4	2	Internships	4	2
Undergraduate dissertation (Agricultural and Food Industries) (12 ECTS)	4	2	Undergraduate dissertation	4	2

If another number of credits is not indicated, all the subjects are of 6 ECTS.
First semester: September – January, Second semester: February – June.

The Master in Agricultural Engineering is oriented towards training engineer with high-level skills, capable of weaving themselves into the fabric of an agri-food sector that is modern, productive, sustainable and environmentally friendly.

This Master confers its holder specific professional responsibilities regulated by law, which are similar to those of a traditional Agricultural Engineer.

An Agricultural Engineer is a professional of high value for any modern agribusiness. Owing to their solid interdisciplinary university training, Agricultural Engineers contribute to the company's activities the necessary knowledge and techniques and create profitable work methods of the highest quality, so that it can compete in the current productive globalised economy.

<http://eps.unizar.es/en/master-agronomic>

SYLLABUS

The Master in Agricultural Engineering corresponds to level 3 of the Spanish Qualifications Framework for Higher Education (MECES) and to level 7 of the European Qualifications Framework (EQF). It consists of **90 European credits** (ECTS) split into **1,5 academic years**, with 3 semesters, each of them including a workload of 30 credits.

The training is divided into the following subject types:

- Compulsory subjects (72 ECTS)
- Internship (6 ECTS)
- Master dissertation (12 ECTS)

All of the subjects are semester-long and are grouped into the following modules:

- MODULE 1:** Technology and planning of the rural environment (27 ECTS)
- MODULE 2:** Technology in crop and livestock production (24 ECTS)
- MODULE 3:** Technology in agri-food industries (10,5 ECTS)
- MODULE 4:** Management and organisation of agri-food companies (10,5 ECTS)
- MODULE 5:** Internship (6 ECTS)
- MODULE 6:** Master thesis (12 ECTS)



SUBJECTS MASTER IN AGRICULTURAL ENGINEERING

For courses descriptions and further information, see: <https://estudios.unizar.es/estudio/ver?id=691>

For lectures schedules and exam calendar, see: <http://eps.unizar.es/academico/horarios-masteria>

For a list of courses included in the English Friendly Program, see: <https://eps.unizar.es/subjects-asignaturasef>

Year	Semester	Subject	Type	ECTS	EF	Module	Year	Semester	Subject	Type	ECTS	EF	Module
1	1	60560 Food quality and safety	Cm	4.5		M3	1	2	60566 Rural facilities and roads	Cm	6		M1
1	1	60561 Rural infrastructure	Cm	6	✓	M1	1	2	60567 Animal production systems	Cm	9		M2
1	1	60562 Agri-food marketing	Cm	4.5		M4	1	2	60568 Plant production systems	Cm	9		M2
1	1	60563 Agricultural land-use planning and management	Cm	4.5		M1	1	2	60569 Systems and processes of food industries	Cm	6	✓	M3
1	1	60564 Agricultural and rural development policies	Cm	4.5		M1							
1	1	60565 Water resources and hydraulic facilities	Cm	6	✓	M1							
2	1	60570 Biotechnology in plant and animal breeding	Cm	6		M2							
2	1	60571 Agri-food business management	Cm	6		M4							
2	1	60572 Internships	Cm	6		M5							
2	1	60573 Master dissertation	Ds	12		M6							

Cm: compulsory; Ds: dissertation.

First semester: September – January, Second semester: February – June.



<http://eps.unizar.es/en/private-studies>

❖ University Expert in Integrated Management of Agricultural Pest (12 ECTS)

To achieve a sustainable use of pesticides in the member states of the European Union, directive 2009/128 of October 21, 2009 must be complied with. This directive has been transposed into Spanish legislation through the corresponding Royal Decrees. In one of them (RD 1702/2011) the aspects related to the **Technical Inspection of Phytosanitary Application Equipment** are regulated, and in another one (RD 1311/2012) the rest of aspects included in the mentioned Directive, among them, the promotion of **Integrated Pest Management**.

The training is divided into:

MODULE 1: Training of technical directors of the ITEAF (3 theor. ECTS + 3 pract. ECTS)

MODULE 2: Responsible technicians of associations for treatments integrated in agriculture (3.6 theor. ECTS + 2.4 pract. ECTS)

For further information, see [here](#) (in Spanish).

❖ Private Master Degree in Sustainable Water Management ONLINE (60 ECTS)

The main goal is to complement the training to face the multiple challenges that arise for the achievement of sustainable water management.

Fourteen Universities and research organizations participate in the design, organization and implementation of the Master, as well as a large number of professors from the university, research and practice in water management and planning fields.

The training is divided into:

- 8 Theoretical modules (virtual modality) (32 ECTS)
- 4 Case studies (face-to-face modality) (16 ECTS)
- Master dissertation (12 ECTS)

MODULE 1: New institutional and legal approaches.
Governance, public participation and conflict management.

MODULE 2: The hydrological cycle: Surface hydrology, aquifer systems and groundwater.

MODULE 3: Productive values and new approaches to economic management.

MODULE 4: Water in agriculture in the new European framework.

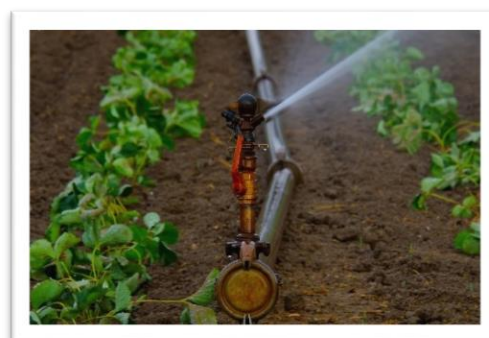
MODULE 5: Continental aquatic ecosystems and transitional waters: Habitats, biodiversity and hydrogeomorphological functions.

MODULE 6: Water in the urban environment.

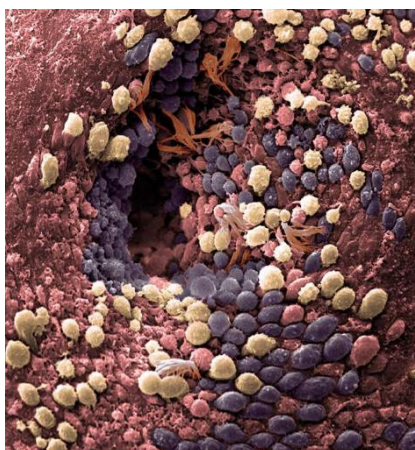
MODULE 7: Political ecology.

MODULE 8: Integrated approaches to water management and planning.

For further information, see [here](#) (in Spanish).



PhD STUDIES



The PhD studies are intended for the advanced training of the student in research techniques. They may include courses, seminars or other activities oriented towards research training and will include writing up and presenting a corresponding Doctoral Thesis, consisting in an original research work. These studies lead to the title of “Doctor by the University of Zaragoza”.

The [Doctoral School](#) manages at the University of Zaragoza, all Doctoral Studies through 45 Doctoral Programs (12 belong to the branch Engineering and Architecture, 10 to Science and other 10 to Social and Legal Sciences).

The Doctoral Thesis can be carried out under the supervision of professors and researchers of the Technological College ([research groups](#)) within the above mentioned Doctoral Programs. Those most related to research linked to the Technological College are highlighted below.

Doctoral Programmes	Research lines	Research groups
SCIENCES		
Animal Production	<ul style="list-style-type: none"> • Animal nutrition and reproduction 	<ul style="list-style-type: none"> ▪ Biology, Physiology and Reproduction Technologies (BIOFITER)
Food Quality, Safety and Technology	<ul style="list-style-type: none"> • Research on plant-based foods 	<ul style="list-style-type: none"> ▪ Vegetarian food (GIAOVE)
Geology WEB	<ul style="list-style-type: none"> • External geodynamics 	<ul style="list-style-type: none"> ▪ Geomorphology and Global Change
Inorganic Chemistry	<ul style="list-style-type: none"> • Catalysis and catalytic processes 	<ul style="list-style-type: none"> ▪ Polyhedral Boron Chemistry
Organic Chemistry WEB	<ul style="list-style-type: none"> • Organic synthesis through catalytic methods • Synthesis and structure of biomolecules 	<ul style="list-style-type: none"> ▪ Amino Acids and Peptides ▪ Asymmetric Organocatalysis (HOCA)
Physical Chemistry	<ul style="list-style-type: none"> • Physical chemistry 	<ul style="list-style-type: none"> ▪ Group of Applied Thermodynamics and Surfaces (GATHERS)
SOCIAL AND LEGAL SCIENCES		
Regional Planning and Environment WEB	<ul style="list-style-type: none"> • Regional planning and environment 	<ul style="list-style-type: none"> ▪ Fire Effects on Soil Properties (Fuegosol) ▪ Paleoenvironments of quaternary (PALOQ) ▪ Territory Planning Study Group (GEOT)

ENGINEERING AND ARCHITECTURE

<p>Agricultural and Environmental Natural Sciences</p> <p>WEB</p>	<ul style="list-style-type: none"> • Agronomy, soil and water • Biodiversity, conservation of organisms and ecosystems, and ecological restoration • Plant breeding • Sustainable agro-silvo-pastoral systems and agro-food economy • Nanofungicides, Valorization of natural products, Valorization of waste, Biorefineries, Soil pollution, Life cycle analysis, Environmental impact analysis 	<ul style="list-style-type: none"> ▪ Agricultural Machinery Laboratory (LAMAGRI) ▪ Biology, Physiology and Reproduction Technologies (BIOFITER) ▪ Conservation of Ecosystems ▪ Ecological Restoration ▪ Fire Effects on Soil Properties (Fuegosol) ▪ Irrigation, Agronomy and Environment (RAMA) ▪ Plant Biology and Evolution (Bioflora) ▪ Robotics, Perception and Real Time Group (RoPeRT) ▪ Sustainable Crop Production (PROVESOS)
<p>Design and Manufacturing Engineering</p> <p>WEB</p>	<ul style="list-style-type: none"> • Design and manufacturing engineering: Group 1 • Design and manufacturing engineering: Group 2 	
<p>Systems Engineering and Information Technology</p>	<ul style="list-style-type: none"> • Information systems and web engineering 	<ul style="list-style-type: none"> ▪ Robotics, Perception and Real Time Group (RoPeRT)
<p>Mechanical Engineering</p> <p>WEB</p>	<ul style="list-style-type: none"> • Fluid mechanics • Mechanical systems and machines, advanced materials in mechanics, transport system and vehicles 	<ul style="list-style-type: none"> ▪ Agricultural Machinery Laboratory (LAMAGRI)
<p>Chemical and Environmental Engineering</p>	<ul style="list-style-type: none"> • Catalysis, molecular separation and reactor engineering • Thermochemical processes • Water and environmental health 	<ul style="list-style-type: none"> ▪ Group of thermochemical processes - Biochar research laboratory ▪ CREG (Catalysis, Molecular Separations and Reactor Engineering) ▪ Water and Environmental Health Group
<p>Fluid Mechanic</p>	<ul style="list-style-type: none"> • Fluid mechanics 	<ul style="list-style-type: none"> ▪ Irrigation Design and Management (Gestar)



RESEARCH LINES

About 85 professors taught at the Technological College. They belong to more than 31 Knowledge Fields and 23 Departments. Most of them belong also to more than 30 Research Groups, showing the relevance of the research activity of the Technological College. Currently, there are >1000 m² of research labs, very recently opened.

Research groups at the Technological College:

- [Grupo Investigación Agua y Salud Ambiental](#)
- [Grupo Investigación Bioflora](#)
- [Grupo Investigación Conservación de Ecosistemas](#)
- [Grupo Investigación CREG](#)
- [Grupo Investigación Fuegosol](#)
- [Grupo Investigación Gestar](#)
- [Grupo Investigación PROVESOS](#)
- [Grupo Investigación Restauración Ecológica](#)
- [Biología, Fisiología y Tecnologías de la Reproducción \(BIOFITER\)](#)
- [Biochar Research Lab - Laboratorio de investigación en Biochar](#)
- [Laboratorio Maquinaria Agrícola](#)

<http://eps.unizar.es/investigacion>

The IN students (mobility programmes) are allowed to do internships and research projects within our research groups. For some opportunities, see: <https://eps.unizar.es/en/internships>

Synergies in research:

On the other hand, the Technological College has important collaborations in academic and research issues with several Research Institutes, regarding to professors and researchers involved in research projects, as well as, students for internships, BSc/MSc thesis and PhD.

- [Instituto Universitario de Investigación en Ciencias Ambientales de Aragón \(IUCA\)](#)
- [Centro de Investigación de Recursos y Consumos Energéticos \(CIRCE\)](#)
- [Centro de Investigación y Tecnología Agroalimentaria \(CITA\)](#)
- [Instituto Agronómico Mediterráneo de Zaragoza \(IAMZ\)](#)
- [Estación Experimental de Aula Dei \(CSIC\)](#)
- [Instituto Pirenaico de Ecología \(CSIC\)](#)
- [Instituto Universitario Mixto Agroalimentario de Aragón \(IA2\)](#)
- [Instituto Universitario de Investigación de Ingeniería de Aragón \(I3A\)](#)
- [Instituto Universitario de Biocomputación y Física de Sistemas Complejos \(BIFI\)](#)

CONTACT US

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Peru:

Dr. Ricardo Aliod Sebastián. 0034 974 239 329; raliod@unizar.es

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USEFUL INFORMATION

International Relations Office (central UZ)

Edificio Interfacultades. Pedro Cerbuna, 12. 50009 Zaragoza – Spain
0034 976 762 052; relint@unizar.es
<http://www.unizar.es/internacional>
<http://www.unizar.es/information-institution/name-and-address>



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Ronda Misericordia, 1. 22001 Huesca – Spain
0034 974 292 535; mobilityhuesca@unizar.es
<https://campushuesca.unizar.es/servicios-universitarios-en-el-campus-de-huesca>

Courses in Spanish as a Second Language and Summer Courses

<https://cursosdeespanol.unizar.es/>

Accommodation for students in Huesca

<https://eps.unizar.es/accommodation>

Visas and foreigner procedures in Huesca

<https://www.policia.es/documentacion/oficinas/aragon.html>

Assistance for disabled students

<http://ouad.unizar.es/>

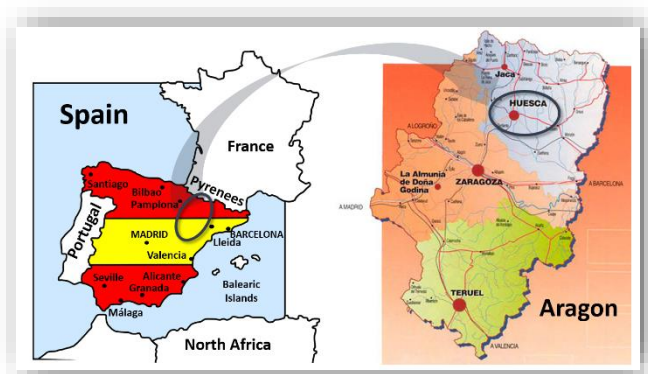
Student international association

AECEE: <http://www.aegee-zaragoza.org/programa-tutor>

Leisure, culture and sports events in Huesca

<https://campushuesca.unizar.es/cultura>
<https://campushuesca.unizar.es/actividades-e-instalaciones-deportivas>
<https://campushuesca.unizar.es/agenda-universitaria-campus-de-huesca>
<http://www.huesca.es/areas/cultura/radar>
<https://www.huescaturismo.com/en/entorno>
<https://www.turismodearagon.com/en>
<https://turismo.hoyadehuesca.es/en>
<http://www.urpirineos.es>
<https://www.turismodezaragoza.es>

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