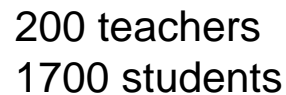




Jorge Alcázar
Lleida, 8th-12th September 2014

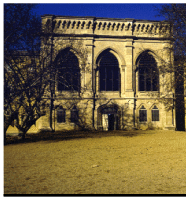


**University of Lleida's experience in the
implementation of the Bologna process:
Structure & contents of study plans in
Agricultural and Forestry degrees**



- Agricultural Engineering
- Forest Engineering
- Food Science & Technology
- Biotechnology
- Animal & Health Science

Total UdL: 750 teachers
9700 students



Universitat de Lleida

University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

Year 1
(60 ECTS)

Year 2
(60 ECTS)

Year 3
(60 ECTS)

Year 4
(60 ECTS)

Common subjects

Common subjects

AP	HG	FE	AEE
----	----	----	-----

AP	HG	FE	AEE
----	----	----	-----

Basic courses: Biology, ecology, botany, soils, hydrology,...

Engineering courses: mathematics, physics, chemistry, economy, topography, rural engineering, GIS,...

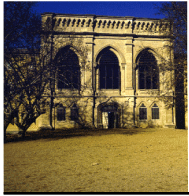
Specialization

AP – Agricultural Production

HG – Horticulture and Gardening

FE – Food Engineering

AEE – Agricultural and Environmental Engineering



University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



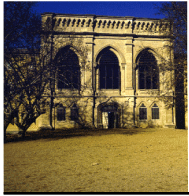
Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

Basic training subjects

- Biology & ecology
- Botany and plant physiology
- Climate, soil and water Statistics and information technologies
- Mathematics, physics and chemistry

Common training subjects

- Plant and animal production technologies
- Economics
- Rural engineering
- Topography and geographical information systems
- Projects



Universitat de Lleida

University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

Agricultural production

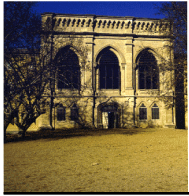


Extensive agricultural production

- Field crops Plant breeding
- Crop protection
- Horticulture and fruit growing
- Irrigation and agricultural equipment

Animal food and breeding

- Poultry production
- Swine production
- Ruminant production
- Constructions and facilities



University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

Horticulture, Fruit Growing and Gardening

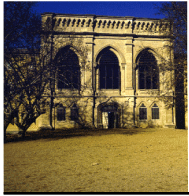
Horticulture and Fruit

- Fruit growing
- Horticulture
- Plant breeding
- Crop protection
- Irrigation and agricultural equipment

Gardening and

- Gardening
- Parks engineering and management
- Landscape and land planning
- Environmental mgmt.
- Construction and facilities





Universitat de Lleida

University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

Agrifood Industries

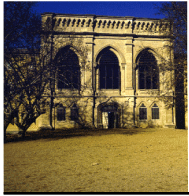


Agrifood industries engineering

- Food technology and engineering
- Food engineering
- Food processing
- Food microbiology
- Food quality

Agrifood industries engineering

- Food industries
- Process engineering
- Plant design Auxiliary industries
- Agroindustrial constructions



Universitat de Lleida

University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

Rural and environmental engineering

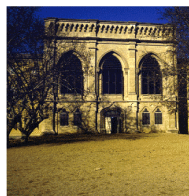
Agricultural applications in rural

- Irrigation and agricultural equipment
- Rural constructions
- Rural mechanisation
- Production technologies

Agricultural applications in

- Efficiency and agroenergy
- Renewable energies
- Environmental eng.
- Environmental management and impact evaluation





University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



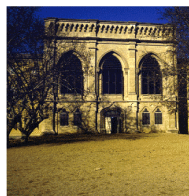
Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

4.1 First year (compulsory subjects)

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102510	6	Biology	102515	6	Agricultural botany and plant physiology
102511	6	Graphic expression	102516	6	Earth Sciences
102512	6	Physics I	102517	6	Ecology and environmental management
102513	6	Mathematics I	102518	6	Physics II
102514	6	General chemistry	102519	6	Organic chemistry and biochemistry

4.2 Second year (compulsory subjects)

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102520	6	Fundamentals of plant production	102525	6	Fundamentals of animal production
102521	6	Construction	102526	6	Agrarian economy and policies
102522	6	Business economics	102527	9	Fundamentals of rural engineering
102523	6	Statistics and Informatics	102528	6	Topography, GIS and teledetection
102524	6	Mathematics II			



University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

4.3 Third year (speciality subjects)

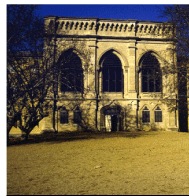
4.4 Fourth year (speciality subjects)

4.3.1 Speciality: Agricultural production

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102530	6	Genetics and plant breeding	102552	9	Field crops
102531	9	Plant protection	102553	6	Fruit trees, horticulture and gardening
102532	6	Irrigation	102554	6	Poultry production
102550	6	Animal feeding and breeding	102555	6	Swine production
102551	6	Field crop technology	102501	6	Agricultural biotechnology (OP)
			102502	6	Ecological agricultural production (OP)

4.4.1 Speciality: Agricultural production

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102556	6	Livestock machinery and facilities	102503	6	Precision agriculture and farming (OP)
102557	6	Ruminant production	102504	6	Ecologic livestock production (OP)
102540	6	Integrated practice: Management and engineering of agricultural and livestock production	102542	6	Placement
102541	9	Projects	102543	12	End-of-degree Project
				6	Horizontal subject



University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

4.3 Third year (speciality subjects)

4.4 Fourth year (speciality subjects)

4.3.2 Speciality: Horticulture, Fruit Growing and Gardening

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102530	6	Genetics and plant breeding	102563	6	Fruit crops
102531	9	Plant protection	102564	6	Vegetable crops
102560	6	Construction and facilities	102565	6	Gardening
102561	6	Fruit production (annual)	102561	3	Fruit production (annual)
102562	6	Horticulture (annual)	102562	3	Horticulture (annual)
			102566	6	Irrigation and agricultural equipments

4.4.2 Speciality: Horticulture, Fruit Growing and Gardening

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102567	6	Parks engineering and management	102569	6	Environmental management
102568	9	Landscape and land planning	102542	6	Placement
102544	6	Integrated practice: Management and engineering of vegetable and fruit growing and gardening	102543	12	End-of-degree Project
102541	9	Projects		6	Horizontal subject



Universitat de Lleida

University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

4.3 Third year (speciality subjects)

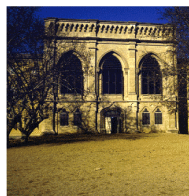
4.4 Fourth year (speciality subjects)

4.3.3 Speciality: Rural and Environmental Engineering

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102532	6	Irrigation	102574	6	Precision agriculture automatics and robotics
102570	6	Agricultural mechanisation	102575	6	Extension of irrigation
102571	6	Material resistance and structural calculations	102576	6	GPS, DEM and CAD
102572	6	Animal production technologies	102577	6	Rural electrical systems
102573	6	Plant production technologies	102578	6	Structural materials

4.4.3 Speciality: Rural and Environmental Engineering

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102579	6	Buildings and land works	102595	6	Environmental management and impact evaluation
102593	6	Efficient energy use and renewable energy	102542	6	Placement
102594	6	Environmental engineering	102543	12	End-of-degree Project
102545	6	Integrated practice: Management and engineering		6	Horizontal subject
102541	9	Projects			



University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Agricultural and Food Engineering - BAFE (240 ECTS)

4.3 Third year (speciality subjects)

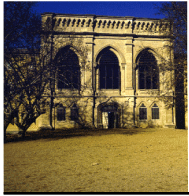
4.4 Fourth year (speciality subjects)

4.3.4 Speciality: Agrifood Industries

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102580	6	Food analysis	102585	6	Agro industrial constructions and electrical systems
102581	6	Fundamentals of food engineering	102586	6	Design of food processing plants
102582	9	Food industries	102587	6	Food process engineering I
102583	6	Food microbiology	102588	6	Animal foods processing technology
102584	6	Vegetable foods processing technology I	102589	6	Vegetable foods processing technology II

4.4.4 Speciality: Agrifood Industries

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102590	6	Food process engineering II	102592	6	Food quality and safety management
102591	9	Auxiliary systems in food industry	102542	6	Placement
102546	6	Integrated practice: Food management and engineering	102543	12	End-of-degree Project
102541	9	Projects		6	Horizontal subject



*University of Lleida's experience in the implementation of
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in Agricultural and Forestry degrees*



Master in Agronomical Engineering - MAE (90 ECTS)

Year 1	
	Compulsory (33 ECTS)
Year 2	Compulsory (33 ECTS)
	Optative (12 ECTS) Master thesis (12 ECTS)

Compulsory courses

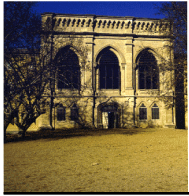
Management of hydric resources (6 ECTS)
Infrastructure management (6 ECTS)
Animal productions systems (7 ECTS)
Biotechnology & plant and animal breeding (6 ECTS)
Land & agricultural resource management (4 ECTS)
Agrifood industries technology (10 ECTS)
Agroenvironmental policy & rural development (4 ECTS)
Business management (6 ECTS)
Plant production & protection systems (7 ECTS)
Business administration (4 ECTS)
Statistical methods (6 ECTS)

Intensification in

**Integrated pest management
Swine health & production**

**Soil & water management
Manag. & innovation in food industry**

Placement (6 ECTS)



Universitat de Lleida

University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Forestry Engineering – BFE (240 ECTS)

Year 1
(60 ECTS)

Year 2
(60 ECTS)

Year 3
(60 ECTS)

Year 4
(60 ECTS)

Common subjects

Common subjects

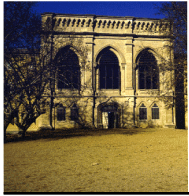
Common subjects

Common & optative

Basic courses: Biology, ecology, botany, soils, hydrology,...

Engineering courses: mathematics, physics, chemistry, economy, topography, GIS,...

Forestry courses: forest management, reforestation, forest mensuration, silviculture,...

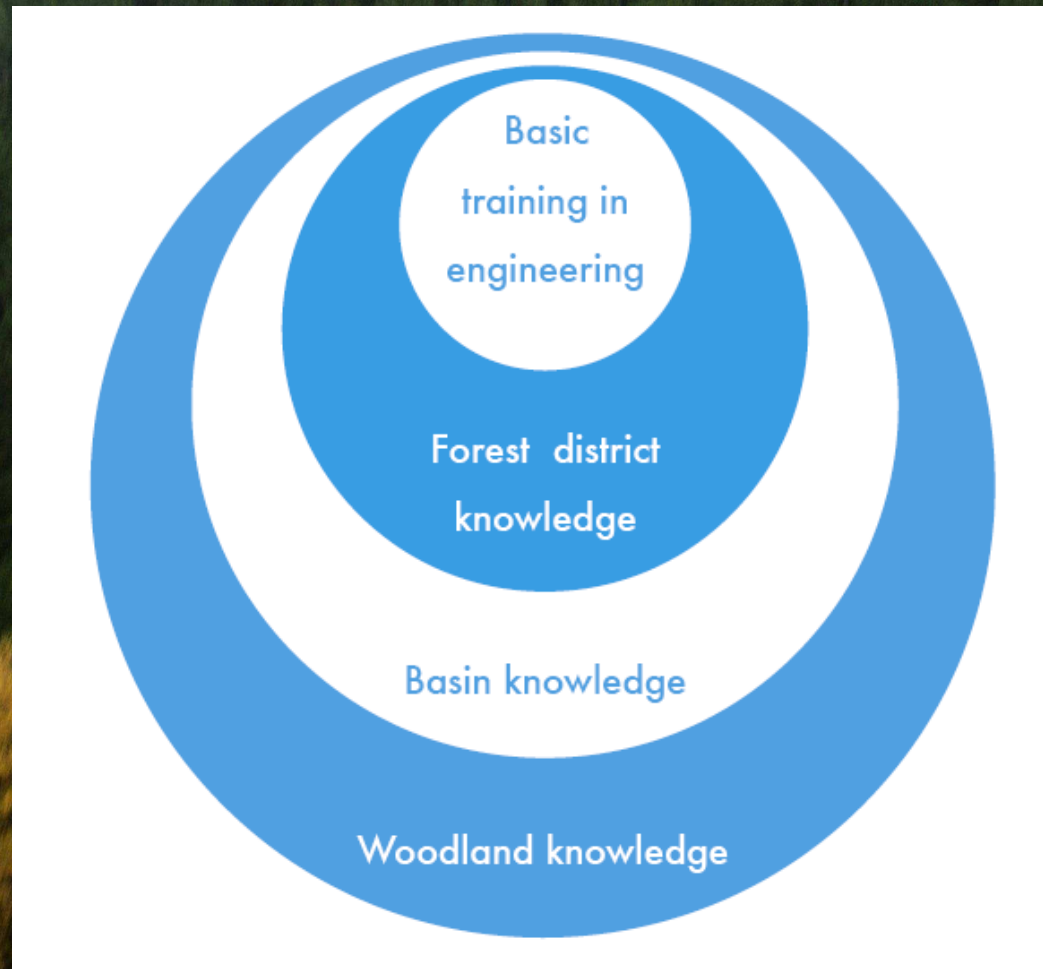


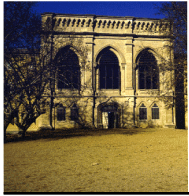
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in Agricultural and Forestry degrees*



Bachelor in Forestry Engineering – BFE (240 ECTS)

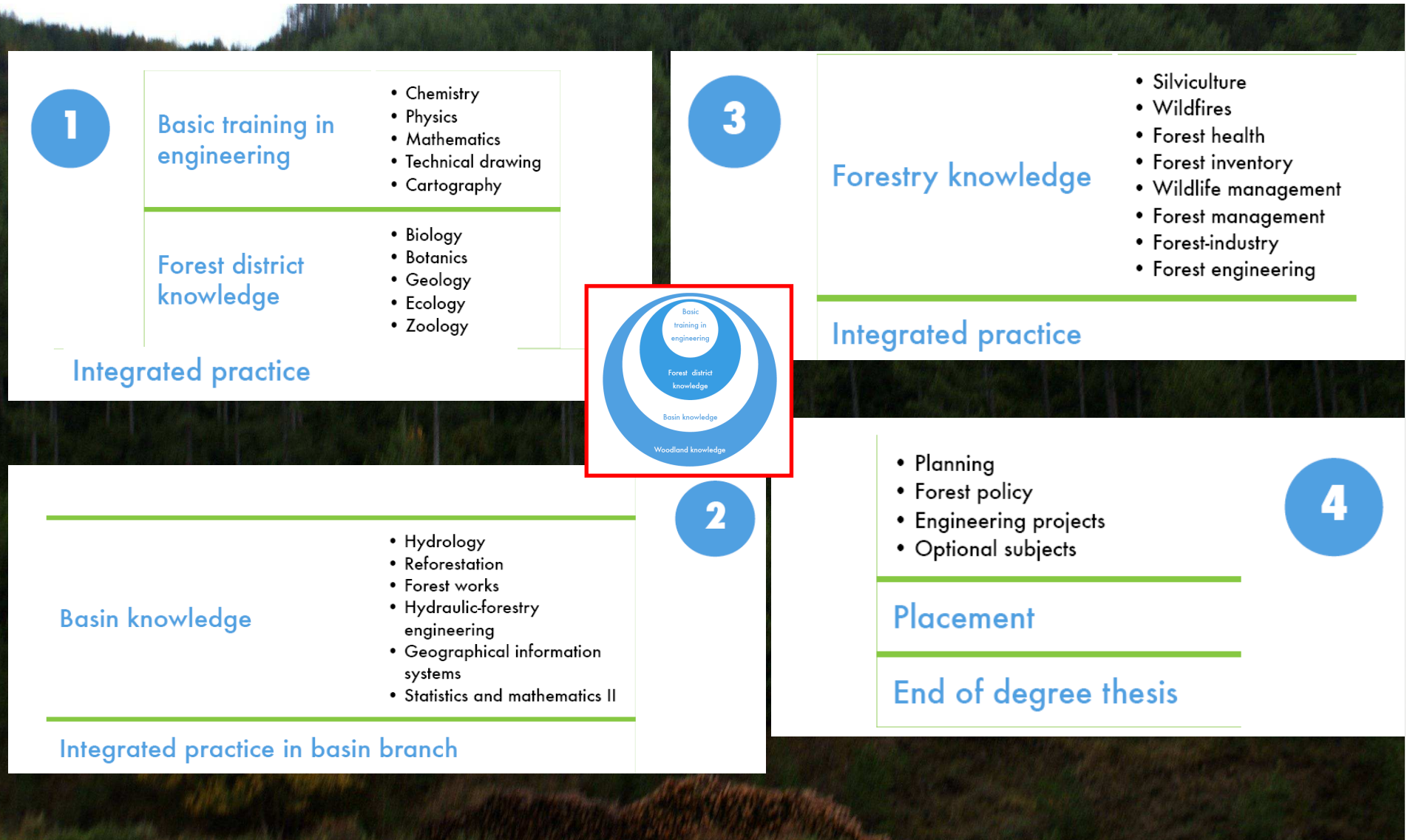


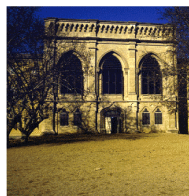


University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Forestry Engineering – BFE (240 ECTS)





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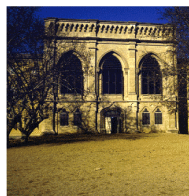
Bachelor in Forestry Engineering – BFE (240 ECTS)

4.1 First year (compulsory subjects)

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102410	6	Graphic expression and cartography	102414	6	Forest biology and genetics
102411	9	Physics	102415	9	Forest botany
102412	6	Mathematics I	102416	6	Earth Sciences
102413	9	Chemistry	102417	9	Ecology, plant ecophysiology and forest zoology

4.2 Second year (compulsory subjects)

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102420	6	Statistics and informatics	102425	6	Business economics
102421	6	Forest hydrology	102426	6	Forest hydraulic engineering
102422	6	Mathematics II	102427	6	Forest works
102423	6	Integrated practice I	102428	6	Integrated practice II
102424	6	Topography, GIS and Remote Sensing	102429	6	Reforestation



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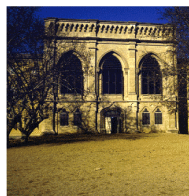
University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Bachelor in Forestry Engineering – BFE (240 ECTS)

4.3 Third year (compulsory subjects)

First Semester			Second Semester		
Code	Credits	Subject	Code	Credits	Subject
102430	6	Inventory, forest mensuration and forest sampling	102434	9	Forest and industry
102431	6	Forest engineering	102435	9	Forest fires and forest health
102432	6	Wildlife management	102436	6	Integrated practice III
102433	9	Forest management and range science	102437	6	Silviculture



Bachelor in Forestry Engineering – BFE (240 ECTS)

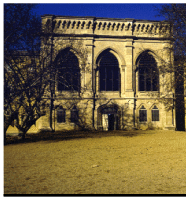
4.4 Fourth year

The degree's optional credits will take place during the first and second semesters to a total amount of 30 credits. All optional subjects are 6 credit subjects, and will be offered on alternate years. Each year's guide will contain information about the ones offered for that year.

Code	Credits	Subject	Code	Credits	Subject
102440	9	Land and environmental planning	102443	6	Placement
102441	6	Forest policy and legislation	102444	12	End-of-degree Project
102442	6	Projects		12	Optional subjects ¹
	12	Optional subjects ¹			

4.4.1 Optional subjects – Mention: Natural system management

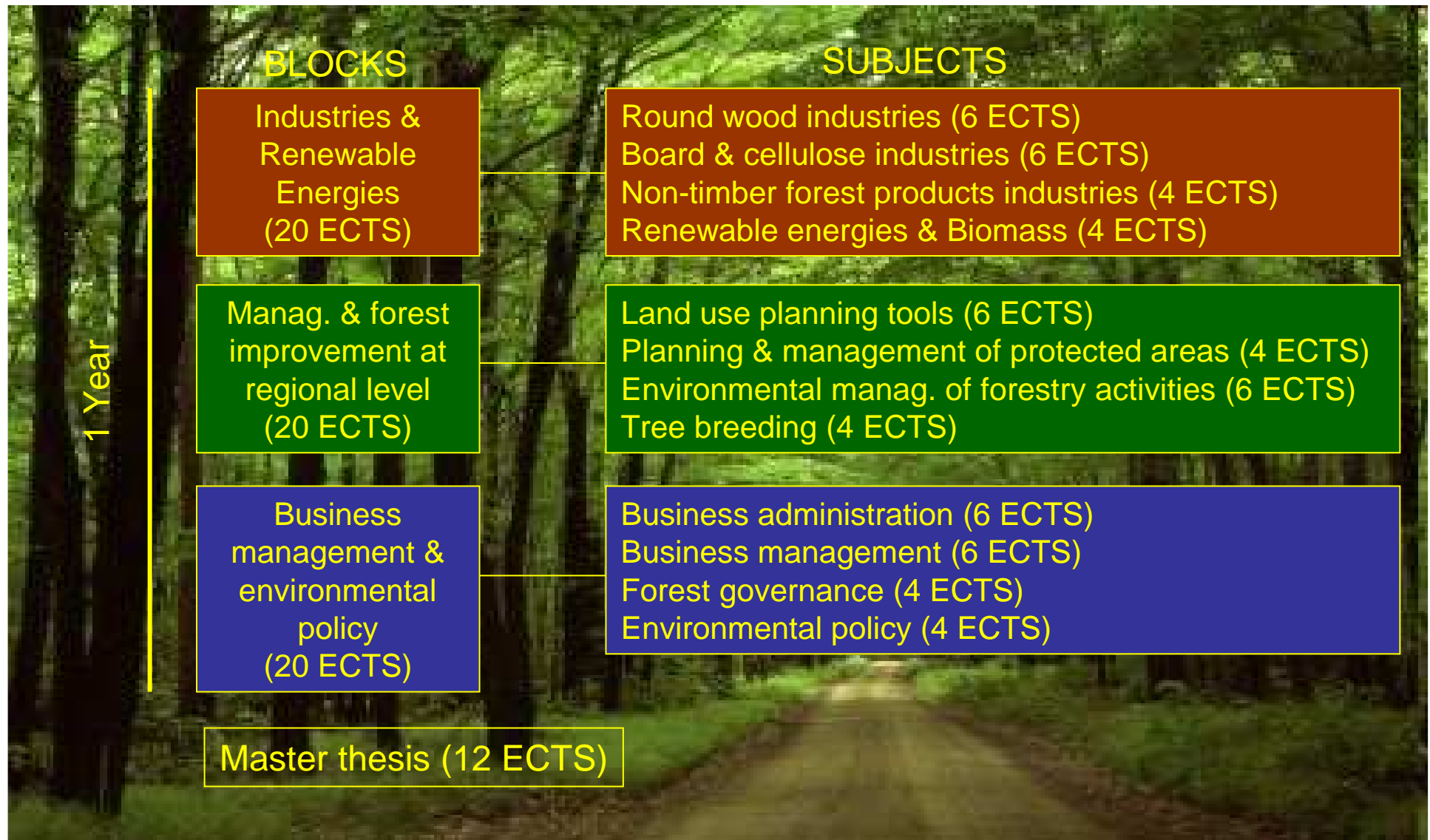
Code	Credits	Subject	Credits
102470		Conservation and Biodiversity (OP)	6
102471		Wood in construction (OP)	6
102472		Meteorology applied to the environment (OP)	6
102473		Statistical methods and forest modelling (OP)	6
102474		Forest nurseries and reforestation (OP)	6
102475		Forest health (OP)	6
102476		Functional silviculture (OP)	6

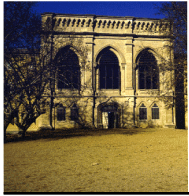


*University of Lleida's experience in the implementation of
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in Agricultural and Forestry degrees*



Master in Forestry Engineering - MFE (72 ECTS)





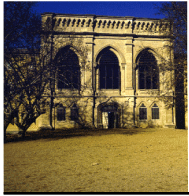
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Some aspects of Bologna process included in new study plans:

- Evaluation based on **continuous assessment**
- Focus on **practical training**
- Student's **personal attention**





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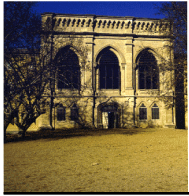


➤ **Continuous assessment** of the student

Including testing, lab reports, exams, oral presentations, resolution of study cases, and other assessment activities

- At least 3 evaluation activities of different tipology
- All evaluation activities \leq 50% of final grade
- Second chance for theoretical tests counting 30-50% of final grade





University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees

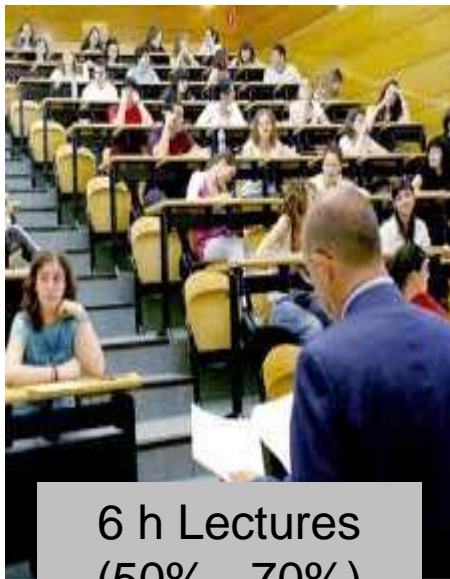


➤ Focus on **practical training**

1 ECTS = 25 hours of student work

➤ 10 h (40%): Instructor present

➤ 15 h (60%): Instructor not present



6 h Lectures
(50% - 70%)

Large groups
(< 80 students)

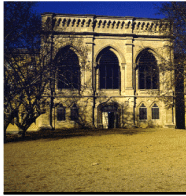


4 h Practical Training
(30% - 50%)

Small groups
(< 20 students)



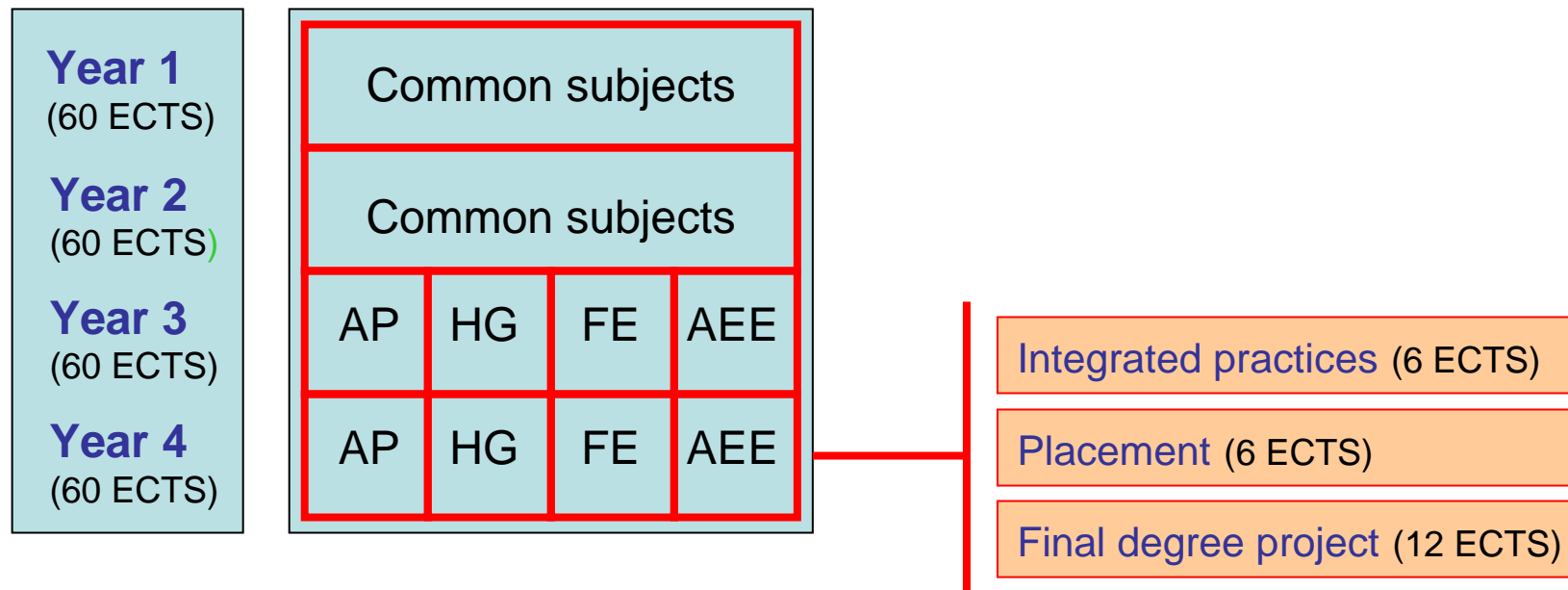
Individual student work

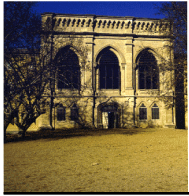


University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Degree in Agricultural and Food Engineering (240 ECTS)

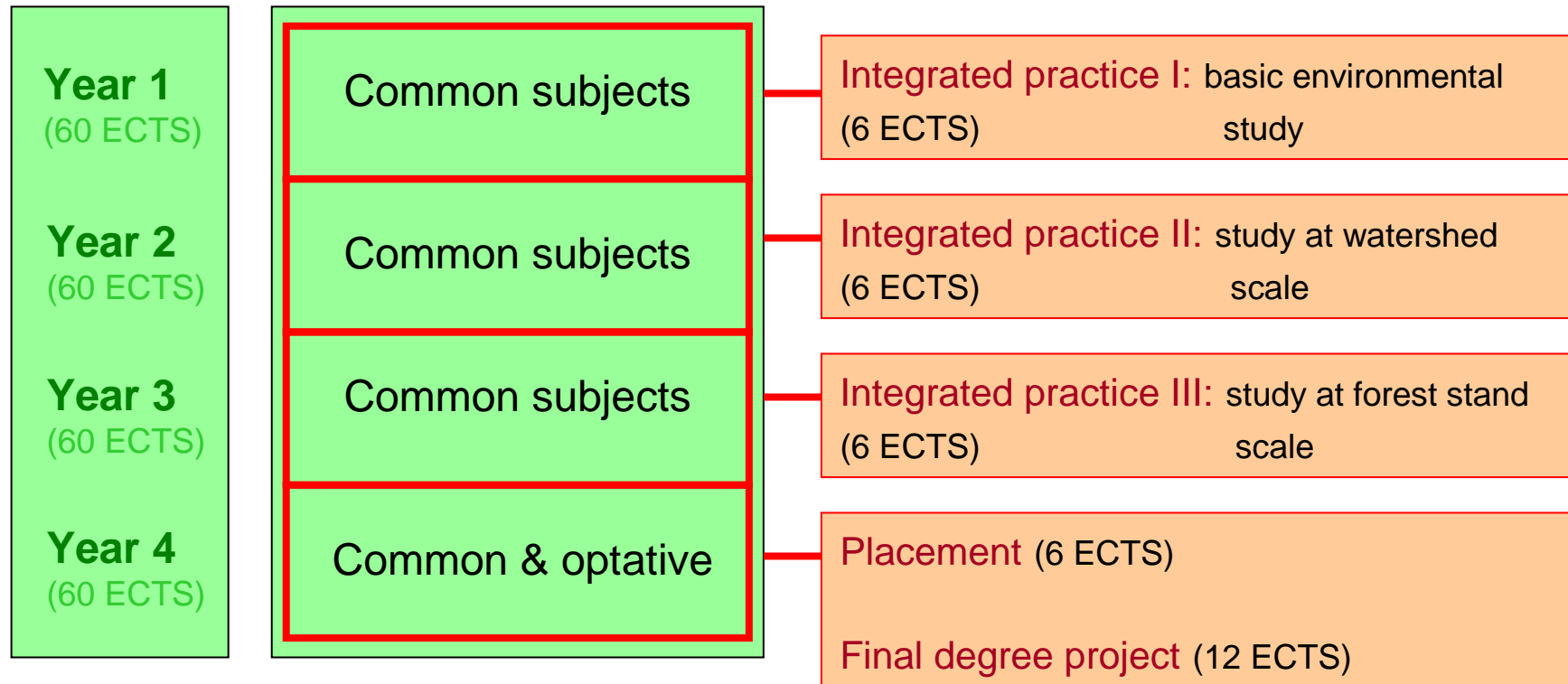


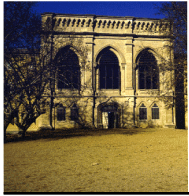


University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Degree in Forestry Engineering (240 ECTS)



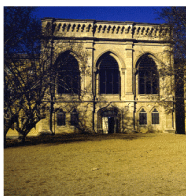


*University of Lleida's experience in the implementation of
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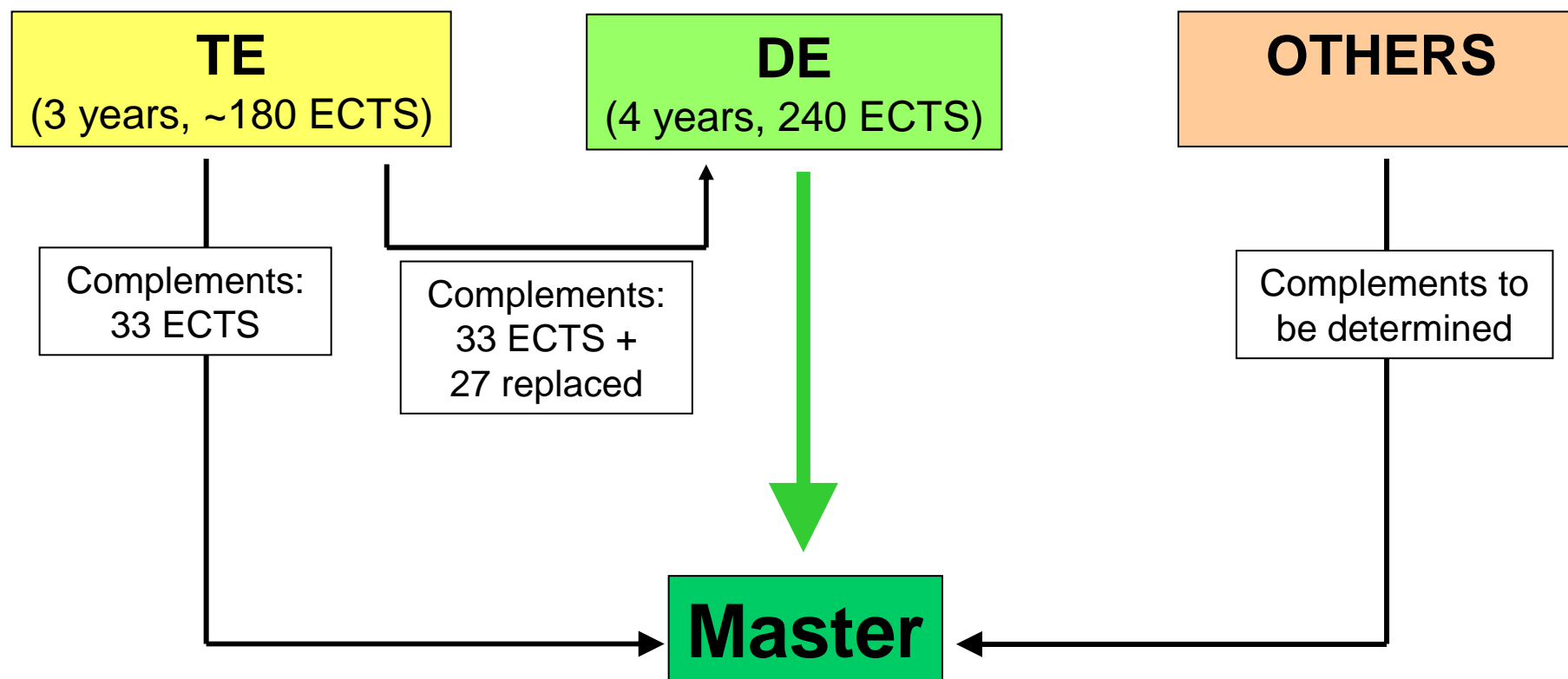


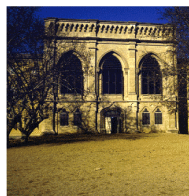
➤ Student's ***personal attention***

- Small groups
- Tutoring program: NESTOR



Access to Master (ex. MFE)





Universitat de Lleida

University of Lleida's experience in the implementation of the Bologna process: Structure & contents of study plans in Agricultural and Forestry degrees



Structure and content of courses

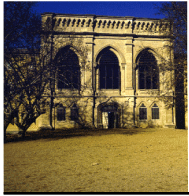
© Guia docent UdL



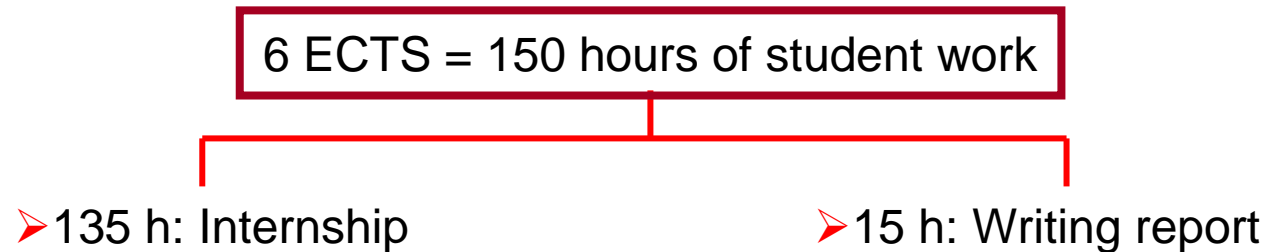
General information	Objectives	Competences	Contents	Methodology
Development plan	Evaluation	Bibliography	Idioma	English <input type="button" value="v"/>

Subject's general information

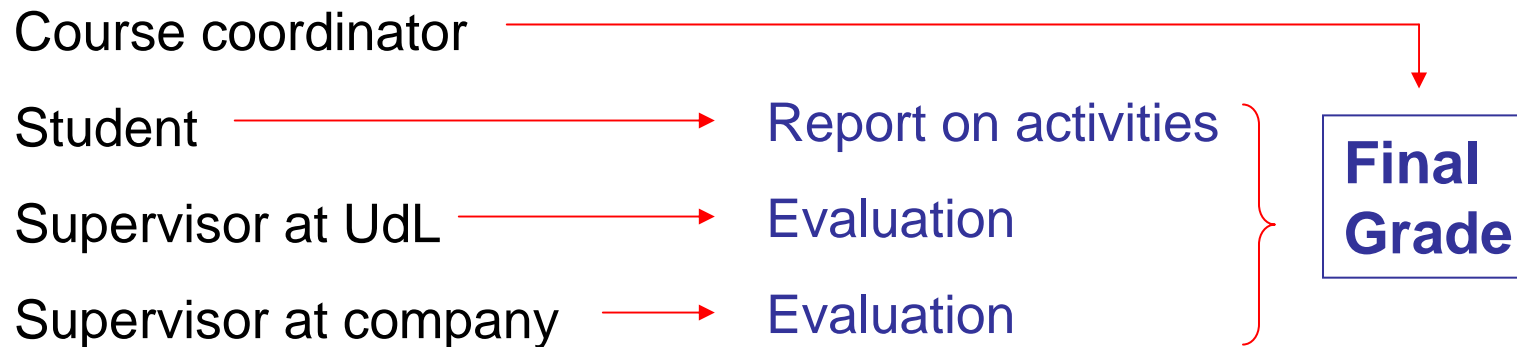
Subject name	ENVIRONMENTAL IMPACT ASESMENT IN FORESTRY OP	
Codi	11378	2014-15 <input type="button" value="v"/>
Course	2	
Semester	Anual	
Typology	Optativa	
ECTS credits	2	

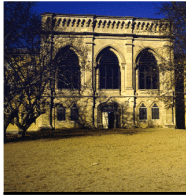


Placements / Internships (6 ECTS)



Parties involved:





Universitat de Lleida

*University of Lleida's experience in the implementation of
the Bologna process: Structure & contents of study plans
in Agricultural and Forestry degrees*



Thank you for your attention

