

SUFAREL TEMPUS Project Kotka, 14 March 2012 Qualification frameworks in forestry sector of EU: education, innovations and benchmarking

Examples of Qualification Framework from the experience at University of Padova

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- 40 Services and Research Centers
- A unified system of **41 University libraries** with 1.9 M volumes, 12,500 magazines and 6,000 on-line magazines



Land, Environment, Agriculture and Forestry (LEAF) Dept.

- Permanent academic staff: 29 professors and 22 researchers
- Other personnel: 33 technicians, librarians and administrative employees
- 31 PhD students
- Research budget: 5 M €









Outline

- 1. Implementing the the Bologna process and the Lisbon Strategy towards and HE European Framework
- 2. HE system related to forestry at University of Padova
- 3. Governance issues related to implementing a QF

Conclusions: future challanges

Main action lines (1/3)

"Bologna process" = inter-governmental process which promotes reforms in higher education with 47 countries, leading to establishing a 'European Higher Education Area'

6 main actions:

 a system of academic degrees that are easy to recognise and compare: shared Diploma Supplement to improve transparency, joint and double degrees

DS templete: 8 sections

1.1	Panaly name(s):
1.2	Grven name(s):
1.3	Date of birth (day month year)
1.4	Student identification number or code (gravnilable):
2	INFORMATION IDENTIFYING THE QUALIFICATION
2.1	Name of qualification and ()f applicable) title conferred (in original language):
2.2	Main field(s) of study for the qualification:
2.3	Name and status of awarding institution (in original language)
2.4	Name and status of institution (8 different from 2.3) administering studies (in ortetual language);
2.5	Language(s) of instruction/examination:
3	INFORMATION ON THE LEVEL OF THE QUALIFICATION
3.1	Level of analification:
3.2	Official length of programme:
3.3	Access requirements(s)
4	INFORMATION ON THE CONTENTS AND RESULTS GAINED
4.1	Mode of study:
4.2	Programme projections
43	Programme details: (e.g. modules or units studied), and the individual grades/marks/credits obtained (if this information is available on an official transcript this should be used here)
4.4	Grading scheme and, if available, grade distribution madance
4.5	Overall classification of the qualification (in original language):
5	INFORMATION ON THE FUNCTION OF THE QUALIFICATION
5.1	Access to further study:
5.2	Professional status () ^e applicable):
6	ADDITIONAL INFORMATION
6.1	Additional information:
6.2	Further information sources:
7	CERTIFICATION OF THE SUPPLEMENT
7.1	Date:
7.2	Signature
7.3	Capacity:
7.4	Official stamp or seal:
8	INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM
OVB &	estimations: who instand to issue Diplome Supplements cherald refler to the explanatory noises that explain here to complete them.)

Main action lines (2/3)

"Bologna process" = inter-governmental process which promotes reforms in higher education with 47 countries, leading to establishing a 'European Higher Education Area'

6 main actions:

- a system of academic degrees that are easy to recognise and compare: shared Diploma Supplement to improve transparency, joint and double degrees
- a system based on 3+2+3 cycles (with learning contents well described: Dublin descriptors)

The 3+2+3 system: Bachelor + Master + PhD

Contents of the 3 titles: see the "Dublin descriptors"

ww.ond.vlaanderen.be/hogeronderwijs/bologna/documents/QF-EHEA-May2005.pdf

Cycle Knowledge and understanding: 1 (Bachelor) [Is] supported by advanced text books [with] some aspects inform knowledge at the forefront of their field of study		
		2 (Master)
3 (Doctorate)	[includes] a systematic understanding of their field of study and mastery of the methods of research* associated with that field.	
	Applying knowledge and understanding:	
1 (Bachelor)	[through] devising and sustaining arguments	
2 (Master)) [through] problem solving abilities [applied] in new or unfamiliar environ within broader (or multidisciplinary) contexts	
3 (Doctorate)	[is demonstrated by the] ability to conceive, design, implement and adapt a substantial process of research* with scholarly integrity	
	[is in the context of] a contribution that extends the frontier of knowledge by developing a substantial body of work some of which merits national or interacting of concerdent well-article and the state of the st	

The 3+2+3 system: Bachelor + Master + PhD

	Making judgements:	
1 (Bachelor)	[involves] gathering and interpreting relevant data	
2 (Master)	[demonstrates] the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete data	
3 (Doctorate)	[requires being] capable of critical analysis, evaluation and synthesis of new and complex ideas	
	Communication	
1 (Bachelor)	[of] information, ideas, problems and solutions	
2 (Master)	[of] their conclusions and the underpinning knowledge and rationale (restricted scope) to specialist and non-specialist audiences (monologue)	
3 (Doctorate)	with their peers, the larger scholarly community and with society in general (dialogue) about their areas of expertise (broad scope)	
	Learning skills	
1 (Bachelor)	(Bachelor) have developed those skills needed to study further with a high level of autonomy	
2 (Master)	Master) study in a manner that may be largely self-directed or autonomous	
3 (Doctorate)	expected to be able to promote, within academic and professional contexts, technological, social or cultural advancement	

Main action lines (3/3)

"Bologna process" = inter-governmental process which promotes reforms in higher education with 47 countries, leading to establishing a 'European Higher Education Area'

6 main actions:

- a system of academic degrees that are easy to recognise and compare: shared Diploma Supplement to improve transparency, joint and double degrees
- a system based on 3+2+3 cycles (with learning contents well described: Dublin descriptors)
- a system of accumulation and transfer of credits (ECTS)
- mobility of students and teachers
- cooperation with regard to quality assurance
- the European dimension in Higher Education: increase the number of modules and teaching and study areas where the content, guidance or organisation has a European dimension

Quality Assurance













BSc Fc Enviror (coherent w of subjects,	prest and nmental Technology Ith a national framework which defines minimum no. ECTS for each gro the thesis, the training activity)
1 st year	68 credits Math, Physics, Inorganic and Organic Chemistry, Plant and Animal Biology, Geology, Economics
2 nd year	68 credits Forest Genetics, Soil, Ecology, Forest Zoology, Forest Plant Botany, Applied Statistics
3 rd year	48 credits Forest Law, Forest Measurement, Geomatic, Forest Policy, Silviculture, Hydrology 12 credits Elective, 4 credits English Language (B1 <i>Threshold</i> *) 10 credits Training Activity 4 credits Thesis

MSc Forest and Environmental Science (curriculum in Italian) oherent with a national framework which defines minimum no. ECTS fo

1st year 20 credits

Ecological Land Planning, Fluvial Morphology, Applied Silviculture 28 credits Specialization

2nd year 26 credits Specialization 8 credits Elective 4 credits Advanced Informatics 4 credits English Language (B2 Vantage*) 30 credits Thesis

* Common European Framework of Reference

MSc Forest and Environmental Science (curriculum in English → links with the Erasmus Mundus program)

1st year 46 credits

Forest Policy, Valuation and Assessment of Forest and Environmental Goods and Services, Forest and Hillslope Hydrology, Forest Landscape Management, Forest Pathology and Wood Alterations, Integrated Watershed Management, Global Change and Forest Ecosystems

2nd year 26 credits

Insect Ecology and Biodiversity Management, Mountain Fluvial Morphology and Stream Restoration, Wildlife Conservation and Management, Wood Harvesting and Transportation Systems 8 credits Elective 4 credits Advanced Informatics

4 credits English Language (B2 Vantage*)

30 credits Thesis

* Common European Framework of Reference

MSc Forest and Environmental Science (specialization in Italian)

Study programs Forest and Environmental Science

Land Protection

Mountain Area Development

Environment and Biodiversity Management

Planning and Management of Green Areas

Qualification objectives

• From a training aimed to educate the future official of the forest administration (till the '80s) to a mix of professional profiles:

- forest professional working mainly as a self-employed consultant
 forest officers for many public organizations (NPs, research organizations, ...)
- forester working in NGOs and companies (wood working, certification....)
- In the forestry sector the first cycle (i.e. Bachelor) has only a role of defining a background, solid, scientific basis for the Master: the proposal for the students is 3+2 as one single co-ordinated program
- More professional, specific knowledge is acquired in the 2nd yr of the Master
- Focus on soft skills (communication, work in groups) and future learning skills



The objectives of the Erasmus Mundus programme (in brief)

Action 1: Supporting the creation of consortia of high level education institutions in EU

Edur

 \odot ERASMUS MUNDUS

- <u>Action 2</u>: Providing scholarships to high-qualified graduate students and scholars from third countries to facilate their participation in the courses
- <u>Action 3</u>: Facilitating the creation of high-quality partnerships between EU and third-country higher education institutions
- <u>Action 4</u>: Improving accessibility and enhance the profile and visibility of higher education in the European Union.

	Title of Masters Course	Course Website
	AFEPA - European Naster In Agricultural, Food and Environmental Policy Analysis	http://www.uclouvain.be/afepa
	AGRIS MUNDUS - MSc in Sustainable Development in Agriculture	http://www.agrismundus.eu
v	EM-SANF - Erasmus Mundus Master Course Sustainable Animal Nutrition and Feeding	http://www.emsanf.eu/UK/
	EWAE - European Master in Applied Ecology	http://www.master-emae.org
	EMBC - Erasmus Mundus Master of Science in Marine Biodiversity and Conservation	http://embc.marbef.org
	EWFOL - Food of Life	http://www.emfoodofulfe.eu/
	EUMAINE - European Master of Science in Nematology	http://www.eumaine.ugent.be/
	eu5Y58iO - erasmus Mundus Master's Course in eu5Y58iO Systems Biology	www.kth.se/eurysbio
	Food ID - European Master Food Identity	www.masterfoodidentity.com
	FIPDes - Food Innovation and Product Design	http://www.fipdes.eu
	IMHS - International Master In Horticultural Sciences	www.imahs.unibo.it
	IMRD - International Master of Science In Rural Development	http://www.imd.ugent.be
ew	MEDIOR - Mediterranean Forestry and Natural Resources Management	http://www.medfor.ey
	MScEF - Master of Science in European Forestry	http://www.europeanforestry.net
	SUFONAMA - Sustainable Forest and Nature Management.	www.sufonama.net
	SUTROFOR - Erasmus Mundus Masters Course in Sustainable Tropical Forestry 🌟	http://www.sutrofox.eu/
-	VINFERA EuroMaster - European Master of Science of Viticulture and Enology	http://winifera-euromaster.eu
	VINTE/CF - Master International Vintage Vine Whe and Terroir menagement	http://www.vintagemaster.com

Erasmus Mundus MSc in agriculture, forestry and veterinary

The university networks			
MEDfOR Lisbona Padova Lieida Porto Viterbo Viterbo Valladolid Karadeniz (TUR)	SUTROFOR • Copenaghen • Dresda • Bangor • Padova • Montpellier	SUFONAMA Copenaghen Goettingen Bangor Padova Alnarp	





University of Padova offers the specialisation: Social and environmental res in tropical forestry.

The main educational aims of the programme are:

to graduate individuals who have a thorough understanding of the main theoretical concepts, international framework and precidual toxic related to ethics in forestry, who are able to apply them to the marketing of prograd freest products and services, and who understand the potentiaties and consequences of promoting a responsible use of freest reasons worklowice;

to develop students' intellectual, practical, critical capacity, information and communication, interpressnal / teamwork, self management and professional development calls in netations to this in foreistry and to social and envicemental responsibility applied to capanizations, both public and private, involved is the forestry sector.

to equip students for a career in an innovative field of work: etitics in ferestry, students will equip personal and professional acids with special reference to responsible trade on use of topical forest products and societal marketing instruments. The greating focus on CSR, environmental communication, public participation and good governance in decision-making multiel to environment social aspects of frestry is leading to a growing demand for professionals and experts in this.

Hodule title Social Responsibility by Public and Private Organisations 2 Environmental Economics for Tropical Forest Resources 3 Societal Marketing: Forest Certification and Other Tools 4 Forest Policies and Conflict Management in Tropical Forest 6 **Research Planning** - 245 60 ERASMUS MUNDUS



Associated partners $(\rightarrow \text{ thesis work})$

- Non-EU universities (e.g.: UBC)
- International Research institutions (e.g.: CIFOR)
- International organizations (e.g.: Food and Agriculture Organization)
- NGOs (e.g.: Mediterranean Forest Owners Association, World Wildlife Fund Mediterranean Office)

General structure

- 120 ECTS: 60 (1st year 2 semesters) + 30 (2nd year 1 semester) + 30 for the thesis
- 1st year in one university (general topics) + 2nd year of specialization in another partner university with thesis work, preferably with an associated partner
- A common field course (between the 1st and the 2nd year for SUTROFOR and SUFONAMA, between the 1st and the 2nd semester for MEDfOR); 9-15 ECTS
- Double or preferably a joint degree
- Some common on line courses (Research methodologies, Climate change economics and policies, Field course preparation)

PhD School: Land, environment, resources and health

- Animal science
- Managerial engineering and economic evaluation
- Crop production science
- Biotechnology and bio-chemistry
- Viticulture, enology and marketing in the wine sector







European Higher Education Area (EHEA) Framework

"The framework for the EHEA derives its distinctive purposes from the objectives expressed through the Bologna Process. The most directly relevant of these objectives are (a) international transparency, (b) recognition, and (c) mobility"

(Bologna Working Group on QF, 2005 p. 57)

http://www.ehea.info/Uploads/qualification/050218_QF_EHEA.pdf

Learning objectives (Dublin descriptors)
a. Knowledge and understanding Hard skills
b. Applying knowledge and understanding ^(JSM)
c. Making judgement Soft skills
c. Making judgement Soft skills d. Communication

(a) International transparency

a. ECTS

- b. Course description (see next slide)
- c. Diploma Supplement
- d. Other minor tools:
 - a. Student guide (tutors, local language course, sport, medical and cultural services, standard costs of living, ...)
 - b. A conversion table for marks
 - c. Special instructions for the thesis

Erasmus Mundus MS overview of student ag 1. Background Inform The Erasmus Mundus N www.sattofot.co) was a students (also known at SUTROFOR was apple	Student evaluation of the entire SUTROFOR programme in Dublin Descriptors for the second cycle (i.e. MSc leve Descriptors are essentially indicators for general skills that us an MSc Programme. These are interesting as they allow SUTROFOR in relations to videly accepted general Europ consortium level results for each of the nine provided queue totain mean scores of at least 40 (very good) in each categoor Table 4. Student assessment of the entire SUTROFOR pro-	teludes qu d educatio adents sho v us to n ean indica ions; the o ty. gramme u	estions clo scal progn suld posser eport on t tors, Table efficial goal sing progn	sely related ammes). T is upon con student evi of SUTRC amme adap	to the fix he Dubli npletion of thation of reports the JFOR is to ted Dubli
Commission with an ov	E Descriptor questions (scale of 1-5 with 5 being full agreement	th/excellent)			0
programme. The main s	Nine Duhlin Descriptor focused questions	2006-08	2007-09	2008-10	mean
discussions among cons 2. Status for the SUTB The SUTROFOR prog	 My two years with SUTROFOR have provided me with knowledge and understanding of key tropical forcerty inware (enhancing my Budjecio) level knowledge). I can use this to develop and apply ideas, including in a research cornex. 	4,7	4.6	43	4.6
The EC appearal of th 2015 with the last stude 2.1 Baric statistics (ap Table 1, based on SUT	 I can apply my knowledge, understanding and problem solving skills in new or orfamiliar environments to address contemporary issues in tropical foreasty. This includes collecting, analysing and evaluating appropriate qualitative and quantitative informations and using it creatively. 	47	43	4.5	4.5
to the programme and t 40 countries (with appli	 I have the shifty to handle complexity and formulate judgements in relation to contemporary tropical forestry issues characterised by incomplete or limited information. 	4.4	4.4	4.0	43
and actually starting the	 I am able to reflect on social and ethical aspects of contemporary tropical forestry issues. 	4,7	4.5	4.2	4.5
the quality of applicati complete the programm Table 1: Overview of	 I can communicate my conclusions, and the knowledge and rationale underpinning these, clearly, conciledy and confidently in spoken and written formats to specialist and non-meetider audiences. 	4.7	4.5	4.2	4.5
SUTROFOR, 2006-12 Data 2 No. of applicants	The learning shills I have acquired will allow me to continue to study in a manner that may be largely self-directed or autonomous.	4.9	4.5	43	4.6
No. of accepted	 I find the SUTROFOR programme excellent. I do not besitate to recommend it to others. 	4.9	4.6	4.4	4.6
Percent accepted 8	 The SUTROFOR programme was just like I expected at the time of application. 	4.5	3.8	4.2	4.2
and an included	9. By completing the SUTROFOR programme, I have become	4.5	3.9	4.0	4.3

Courses description: Dublin descriptors (Knowledge and understanding, Applying knowledge and understanding, Making iudgement. Communication, Learning skills)

The Tuning project:

and use in their own setting".

"an approach to (re-)designing, develop, implement, evaluate and enhance quality first, second and third cycle degree programmes. The Tuning outcomes as well as its tools are presented in a range of Tuning publications, which institutions and their academics are invited to test

(b) Recognition

 Legal recognition: still an open process. Individual governments of EU countries remain responsible for their education systems and are free to apply their own rules, including whether or not to recognise academic qualifications obtained elsewhere

... but a with the EM programs students get 2 Master titles recognized at least by 2 countries + the DS

 Market recognition: apparently good employment position (in international organizations, NGOs, companies, ... while public sector is suffering for the budget cuts) and many PhD positions



Links with the market (employment opportunities)

About MEDFOR

MEDFOR - Mediterranean Forestry and Natural Resources Management

A two-year world-class Ersemus Mundus Master Course Programme that answers a call for a coordinated approach throughout the Mediterranean basin to develop reliable information and tools - based on sound science and a multidisciplinary approach, in order to improve Mediterranean forestry and natural resources management and policy making.







(c) Mobility

- EU students included in groups of 10-20 highly qualified international students selected out of more than 500 students world-wide. Scholarships for EU and non-EU students (21,000 € per year)
- Excellent students → their skills and enthusiasm is carried on to "local" students – motivations to improve programmes
- Scholarships for third-country scholars and for short-term missions (1-3 months) for EU universities staff
- Compulsory Joint Summer Module, some on line courses
- International network, alumni association of all EM students/universities

A summary view

- Remarkable progress towards a common European educational area (Bologna process)
- Forest sciences: more advanced in the internalization process
- Start-up: a leading role of Scandinavian forest schools (DK, FIN, S); now a more enlarged cluster of universities
- A general perception: to survive as a top-class university internationalization is not an option but a starting point

A summary view

- Still very dynamic, unstable and not consolidated experiences
- With a continuous process of integration, challenging problems to be considered:
 - Problems related to internal governance
 - Problems related to general context of governance

Internal governance-related problems

A "professional" approach to the problem of participating to the EAHE building (not to be left to the personal interest of one or few professors)

- Administration
- Heavy administrative burden: selection procedure, financial agreements, administrative manuals, etc.
- You need a strong institutional commitment
- "One for all, and all for one": keeping all partners satisfied
- International students are excellent but high demanding: teaching offer is only a component of students' satisfaction

Problems related to the general context of governance

- Mobility → transparency (international accreditation) → increased competition; in this open market for HEIs is still there a room in Europe for so many universities teaching forestry?
- From the teaching focused on wood value chain to a vision of forests as multifunctional resources: are forest HEIs loosing their identity? (not mentioning e-learning and the risk to loose a traditional role of teaching institution)
- A possible solution for MSc and PhD programmes: a network of top quality universities offering high specialized compact courses? (e.g.: watershed management, forest monitoring, CSR, landscape planning, bio-energy, ...)

New developments: ERASMUS for ALL

The new EU programme for education, training, youth and sport proposed by the EC on November 2011

Overall budget	€19 billion (includes €1.8 billion for international cooperation)		
Overall mobility opportunities	S million people		
Higher education	2.2 million students		
Staff mobility	1 million teachers, trainers, youth workers and other staff		
Vocational education and training	735 000 students		
Volunteer and youth exchange schemes	540 000 young people		
Master's degree loan guarantee scheme	330 000 students		
International students	135 000 students		
Joint degree grants	34 000 students		
Cooperation targets:			
Physics and Physics and Physics	More than 20 000 linking together		
strategic vartnersnips	115 000 institutions		
Knowledge Alliances	200 set up by 2000 higher education institutions and businesses		
Sectoral Skills Alliances	200 set up by 2000 education and training providers and businesses		

Only if we cope with these challenges we can have people staying at our universities that, describing their past experience, can state like Galileo Galilei after his staying at University of Padova - *"I spent there the most productive and nice years of my life"*



СПАСИБО!

