



SUFAREL TEMPUS Project  
Videoconference; 31 Oct. 2012

## Qualification frameworks in forestry sector at University of Padova

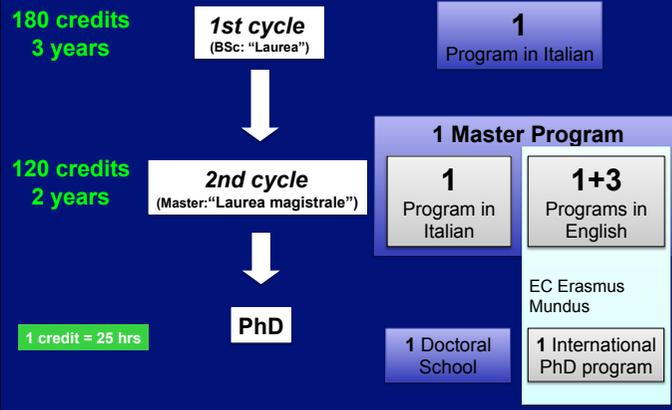


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## Outline

- HE system related to forestry at University of Padova
  - The Bachelor course
  - The Masters (1 in Italian; 1+3 in English)
  - The PhD
- The QA system
- Conclusion

## The UNIPD educational structure in forestry



## General objectives of teaching (national level)

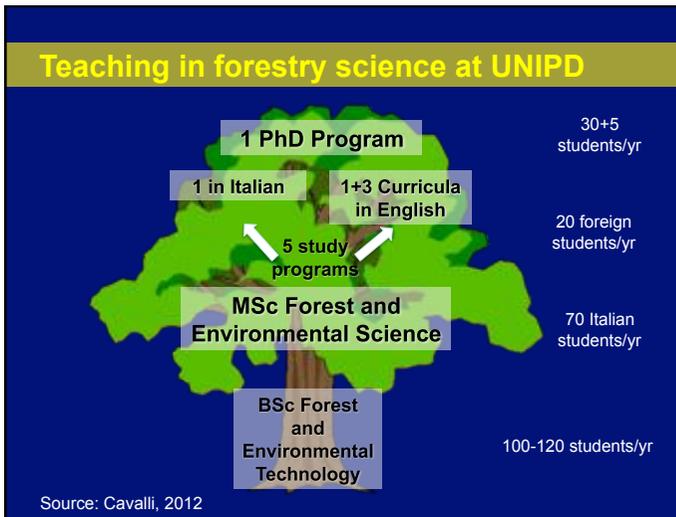
**Study in Italy**  
Italian Higher Education for International Students

Home - Higher Education - Studying in Italy - Course search

**Agriculture, food industry and forestry**

Graduates of this first degree course must:

1. possess adequate basic knowledge in the fields of mathematics, physics, computer science, chemistry and biology for the purposes of application;
2. know research methods and be able to participate in research and experimentation, as well as use their knowledge to solve the various practical problems in the agriculture, food industry and forestry sectors;
3. possess knowledge and competence of operational procedures and lab work, in one or more of the following sectors: agriculture, food industry and forestry;
4. be able to give technical assistance in the agriculture, food industry and forestry sectors;
5. be able to evaluate what impact agriculture, the food industry and forestry projects have on the environment;
6. understand the corporate environment and the relative economic, managerial and organisational aspects of the agriculture, food industry and forestry sectors;
7. possess the basic education and ability needed to constantly update their knowledge and professional competence.



- ### General objectives of teaching (Padova) (1/2)
- A clear proposal to the students: a professional profile is reached with an educational program 3+2
  - Within the national targets:
    - Expert in forest management (forest inventory, forest protection, wood harvesting, marketing and processing of forest products)

- ### General objectives of teaching (Padova) (2/2)
- Expert in environmental education
  - Expert in watershed management
  - Expert in management of protected areas and wild fauna
  - ... mainly in a position of consultant (reduced employment opportunities as employee by the public sector), often working in mountain areas (high concentration of forest and natural areas)

### BSc Forest and Environmental Technology

(coherent with a national framework which defines minimum no. ECTS for each group of subjects, the thesis, the training activity)

1 <sup>st</sup> year	<b>68 credits</b> Math, Physics, Inorganic and Organic Chemistry, Plant and Animal Biology, Geology, Economics
2 <sup>nd</sup> year	<b>68 credits</b> Forest Genetics, Soil, Ecology, Forest Zoology, Forest Plant Botany, Applied Statistics
3 <sup>rd</sup> year	<b>48 credits</b> 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

\* Common European Framework of Reference

## MSc Forest and Environmental Science (curriculum in Italian)

(coherent with a national framework which defines minimum no. ECTS for each group of subjects, the thesis, the training activity)

1 <sup>st</sup> year	<b>20 credits</b> Ecological Land Planning, Fluvial Morphology, Applied Silviculture
	<b>28 credits Specialization</b>
2 <sup>nd</sup> year	<b>26 credits Specialization</b> 8 credits Elective 4 credits Advanced Informatics 4 credits English Language (B2 <i>Vantage</i> *) <b>30 credits Thesis</b>

\* Common European Framework of Reference

## MSc Forest and Environmental Science (specialization in Italian)

After the Bachelor the student enters the 2nd cycle where he/she has 5 +1 options (the last option is his/her personal study program officially approved by the University)

Study programs
Forest and Environmental Science
Land Protection
Mountain Area Development
Environment and Biodiversity Management
Planning and Management of Green Areas

## MSc Forest and Environmental Science (curriculum in English)

1 <sup>st</sup> year	<b>46 credits</b> 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
2 <sup>nd</sup> year	<b>26 credits</b> 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 <i>Vantage</i> *) 30 credits Thesis

\* Common European Framework of Reference



## 3 International MSc related to forestry Within the ERASMUS-MUNDUS program

### MEDfOR

- Lisbona
- Padova
- Lleida
- Porto
- Viterbo
- Valladolid
- Karadeniz (TUR)

### SUTROFOR

- Copenaghen
- Dresda
- Bangor
- Padova
- Montpellier

### SUFONAMA

- Copenaghen
- Goettingen
- Bangor
- Padova
- Alnarp

All teaching in English (only in Montpellier: French)

## General structure

- **120 ECTS** 60 (1<sup>st</sup> year – 2 semesters) + 30 (2<sup>nd</sup> year – 1 semester) + 30 for the thesis
- **1<sup>st</sup> year in one university** (general topics) + **2<sup>nd</sup> year of specialization** in another partner university with thesis work, preferably with an associated partner
- A **common field course** (between the 1<sup>st</sup> and the 2<sup>nd</sup> year for SUTROFOR and SUFONAMA, between the 1<sup>st</sup> and the 2<sup>nd</sup> 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)

[www.medfor.eu](http://www.medfor.eu)

**UP - Second Year**  
30 ECTS specialization sub-programme at University of Padova (Italy) on:

**Social and Environmental responsibility in Mediterranean forestry**

Students attending the specialization in "Social and Environmental responsibility in Mediterranean forestry" will acquire a knowledge and understanding of the following subjects:

- Social Responsibility by public and private institutions: principles and fundamental elements of business and government ethics as applied to forestry; role and responsibilities in institutional setting; main international initiatives in promoting a responsible use of forest resources.
- Environmental economics for Mediterranean forest resources: role of forestry in the global economy; multi-functional role of responsible managed forests in providing products and services; the international market framework; responsible trade in Mediterranean forest products and services.
- Societal marketing: forest certification and other tools; strategic marketing planning; segmentation and differentiation – marketing positioning; initiatives and instruments to implement environmental and social responsibility by both private and public organizations and actors.
- Applied statistics in forest research and Research and project design: principles, elements and tools to be used in organizing a research project, qualitative and quantitative methods for data analysis to be applied in investigating the responsible production and trade in forest products and services and the problems of governance of the sector.

**Courses**

1. Social Responsibility in Forestry by Public and Private Organizations (5 ECTS)
2. Valuation and Assessment of Forest and Environmental Goods and Services (6 ECTS)
3. Societal marketing: forest certification and other tools (6 ECTS)
4. Applied statistics in forest research (5 ECTS)
5. Forest policies and conflict management in forestry (5 ECTS)

The MEDFOR emphasis is on educating the leaders of the future generation of engineers, managers, researchers, and teachers involved in Mediterranean forestry and natural resources management. MEDFOR equips students with a solid scientific habilitation and the competences for careers in innovative fields of work within the Mediterranean forestry supply chain. It will both provide the basis needed for students to pursue academic opportunities (e.g. PhD program) and the qualifications needed to fill positions in all Mediterranean forestry supply chain segments (i.e. forestry and natural resources organizations, either public or private, either national or international).

[www.sutrofor.eu](http://www.sutrofor.eu)

**Second year at the University of Padova**  
University of Padova offers the specialisation: **Social and environmental responsibility 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 frameworks and practical tools related to ethics in forestry, who are able to apply them to the marketing of tropical forest products and services, and who understand the potentialities and consequences of promoting a responsible use of forest resources worldwide;
- to develop students' intellectual, practical, critical capacity, information and communication, interpersonal / teamwork, self management and professional development skills in relation to ethics in tropical forestry and to social and environmental responsibility applied to organizations, both public and private, involved in the forestry sector;
- to equip students for a career in an innovative field of work: ethics in forestry. The students will acquire personal and professional skills with special reference to responsible trade and use of tropical forest products and societal marketing instruments. The growing focus on CSR, environmental communication, public participation and good governance in decision-making related to environment and social aspects of forestry is leading to a growing demand for professionals and experts in this field.

Module no.	Module title	ECTS
1	Social Responsibility by Public and Private Organizations	6
2	Environmental Economics for Tropical Forest Resources	6
3	Societal Marketing, Forest Certification and Other Tools	6
4	Forest Policies and Conflict Management in Tropical Forest	6
5	Research Planning	6
6	Thesis	30
	<b>Total</b>	<b>60</b>

[www.sufonama.eu](http://www.sufonama.eu)

**Second year at University of Padova**  
University of Padova offers the specialisation: **Mountain Forestry and Watershed Management.**

This includes the following second year modules (Study start 2012):

Module no.	Module title	ECTS
1	Research Planning	6
2	Management of Mountain Forests and Logging Systems	10
3	Valuation and Assessment of Forest and Environmental Goods and Services	6
4	Mountain Fluvial Morphology and Stream Rehabilitation	8
5	Thesis	30
	<b>Total</b>	<b>60</b>

## 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



www.tesaf.unipd.it/school/lerh.asp

www.fonaso.eu/

## Quality Assurance Links with the professionals

- **Good and frequent links with the Association of Chartered Agronomists and Forests:**
  - they are invited to make comments and suggestions on the Bachelor and Master courses organization
  - Moreover, to practice the professional activity, post-graduates have to pass a State examination organized by a mixed Commission with a majority of members from the Association → direct control of the contents and acquired knowledge of the young graduates

## Quality Assurance Links with the market (employment opportunities)

### About MEDFOR

#### MEDFOR - Mediterranean Forestry and Natural Resources Management

A two-year world-class Erasmus 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.

The MEDFOR emphasis is on educating the leaders of the future generation of engineers, managers, researchers, and teachers involved in Mediterranean forestry and natural resources management. MEDFOR equips students with a solid scientific habilitation and the competences for careers in innovative fields of work within the Mediterranean forestry supply chain. It will both provide the basis needed for students to pursue academic opportunities (e.g. PhD program) and the qualifications needed to fill positions in all Mediterranean

The MEDFOR Consortium is supported by a consultation panel that includes leading international research and outreach organizations in all scientific areas of interest to Mediterranean forestry and natural resources management. The six associated partners are: European Forest Institute, Mediterranean regional office (EFIMED), Spain, Ecole Nationale Forestière d'Ingenieur (ENFI), Morocco, Institut National de Recherche en Génie Rural, Fauc et Forêts (INRGREF), Tunisia, Forest Technology Center of Catalonia (CTFC), Spain, Institut National de la Recherche Agronomique (INRA) - Unité de Recherche Ecologie des Forêts Méditerranéennes, France, and the International Centre of Advanced Mediterranean Agronomic Studies (CIHEAM) - Mediterranean Agronomic Institute of Chania (Greece).

The consultation panel is coordinated by EFIMED and in order to enhance and strengthen the interaction of MEDFOR with stakeholders and the Mediterranean forest community it further includes key stakeholders such as the Mediterranean Forest Owners Association (ForMED), the World Wildlife Fund Mediterranean Office (WWFMed), the Association Internationale Forêt Méditerranéenne (AIFM) and the Food and Agriculture Organization (FAO).

ALMA LAUREA

ALMA LAUREA

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GRADUATES COMPANIES UNIVERSITIES

Home > Graduates

### What is the profile of the graduate from your University, your Faculty, your subject area, etc.?

graduation year: 2011  
type of degree course: second cycle degree (post-Bologna process reform)  
University: all  
Faculty: Agriculture  
degree subject grouping: agriculture

ALL UNIVERSITIES

Number of graduates: 1,031  
Completed the questionnaire: 953

27.6/30 single examinations' marks  
108.9/110 graduation mark  
55.9% graduates completing their studies within prescribed completion time  
2.7 duration of studies  
81.4% attended over 75% of classes prescribed by the degree course on a regular basis  
10.1% studied abroad with Socrates/Erasmus or other European Union programmes  
49.8% carried out training periods or training practice experiences  
37.0% are definitely satisfied with the course of studies

## Quality Assurance The students' evaluation

Erasmus Mundus MSc programme overview of student application

1. Background information  
The Erasmus Mundus MSc programme ([www.sutrofor.eu](http://www.sutrofor.eu)) was approved by the Commission with an overview programme. The main source of information for students (Edition VI) were the EC approval of the year 2015 with the last students graduating in 2015.

2. Status for the SUTROFOR programme  
The SUTROFOR programme has received the EC approval of the year 2015 with the last students graduating in 2015.

2.1 Basic statistics (applies to the programme and the 40 countries (with application to the student body are female, and actually starting their studies the quality of applications to complete the programme - 4)

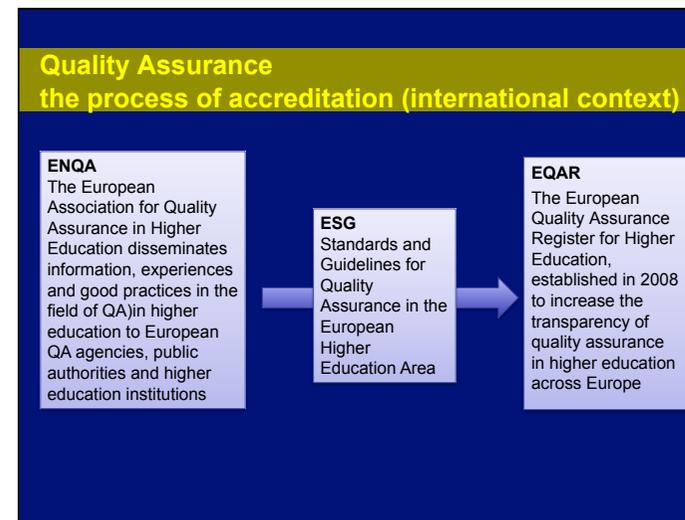
Table 1: Overview of main SUTROFOR, 2006-12

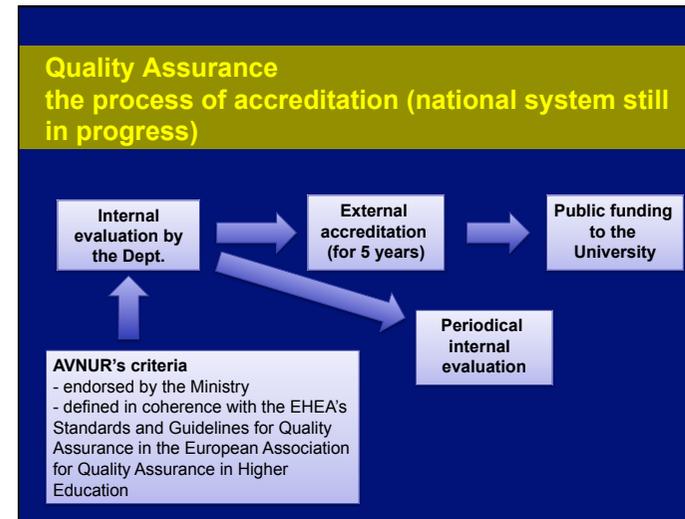
Data	2006	2007	2008	2009	2010	2011	2012	mean
No. of applicants	207	207	207	207	207	207	207	207
No. of accepted	23	23	23	23	23	23	23	23
Percent accepted	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%
No. of students graduating	23	23	23	23	23	23	23	23
Percent drop-outs	0%	0%	0%	0%	0%	0%	0%	0%

Table 4: Student assessment of the entire SUTROFOR programme using programme adapted Dublin Descriptor questions (scale of 1-5 with 5 being full agreement/excellent)

Nine Dublin Descriptor focused questions	Mean score				Overall mean
	2006-08	2007-09	2008-10	2009-11	
1. My two years with SUTROFOR have provided me with knowledge and understanding of key tropical forestry issues (enhancing my Bachelor level knowledge). I can use this to develop and apply ideas, including in a research context.	4.7	4.6	4.5	4.6	4.6
2. I can apply my knowledge, understanding and problem solving skills in new or unfamiliar environments to address contemporary issues in tropical forestry. This includes collecting, analysing and evaluating appropriate qualitative and quantitative information and using it creatively.	4.7	4.3	4.5	4.5	4.5
3. I have the ability 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	4.3	4.3
4. I am able to reflect on social and ethical aspects of contemporary tropical forestry issues.	4.7	4.5	4.2	4.5	4.5
5. I can communicate my conclusions, and the knowledge and rationale underpinning these, clearly, concisely and confidently in spoken and written formats to specialist and non-specialist audiences.	4.7	4.5	4.2	4.5	4.5
6. The learning skills 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	4.3	4.6	4.6
7. I find the SUTROFOR programme excellent. I do not hesitate to recommend it to others.	4.9	4.6	4.4	4.6	4.6
8. The SUTROFOR programme was just like I expected at the time of application.	4.5	3.8	4.2	4.2	4.2
9. By completing the SUTROFOR programme, I have become very competitive in the relevant international job market.	4.5	3.9	4.0	4.1	4.1

\* Most recent evaluations have not yet been analysed.





- ### Conclusion
- 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 **2<sup>nd</sup> yr of the Master**
  - Focus on soft skills** (communication, work in groups) and **future learning skills**

- 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**

Welcome to Padova  
next May!



СПАСИБО!



This presentation can be downloaded from: [www.tesaf.unipd.it/pettenella/](http://www.tesaf.unipd.it/pettenella/)