



International Conference
In the framework of the Tempus SUFAREL project
S. Pietersburg, 27-29.5.2014

The teaching framework in forest science: contribution of Padua University to the SUFAREL Project

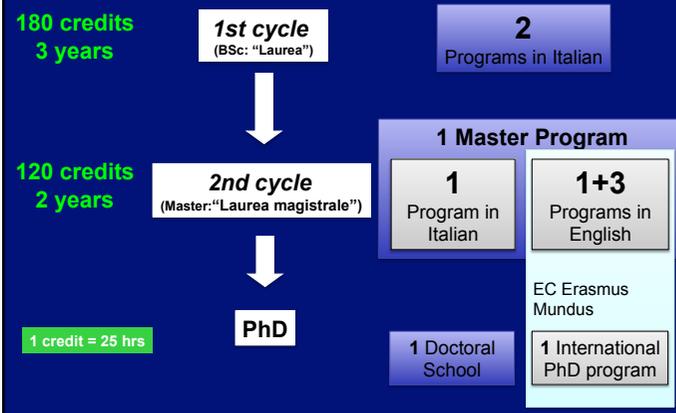


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Outline

1. HE system related to forestry at University of Padova
 - The Bachelor courses
 - The Masters
 - The PhD
2. The Qualification Framework
3. QA
4. Conclusion

1. The UNIPD educational structure in forestry



General objectives of teaching (national level)

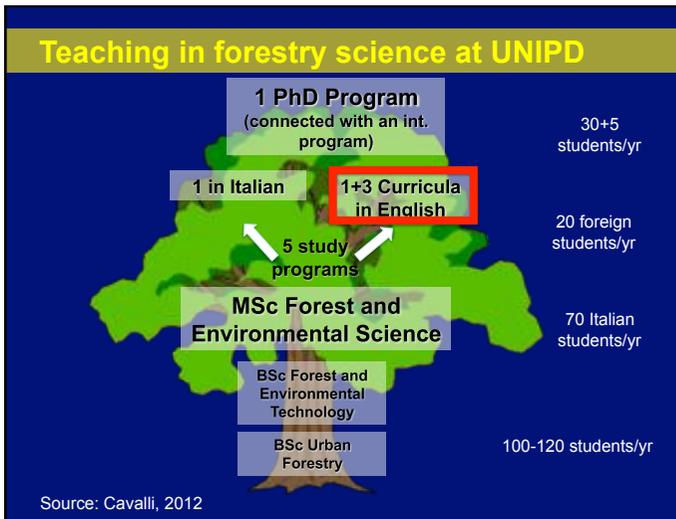
Study in Italy
Italian Higher Education for International Students

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 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

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

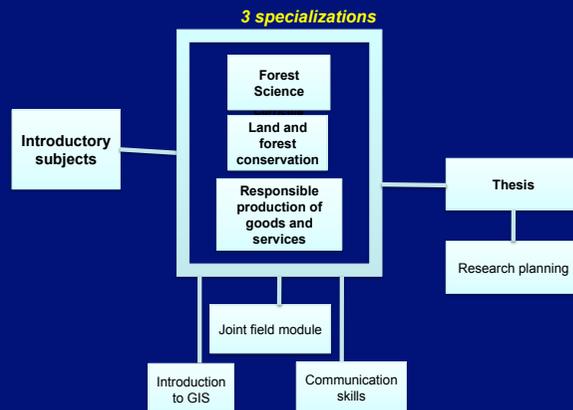
* Common European Framework of Reference

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

The structure of the new MSc Forest Science (curriculum in English)



MSc Forest Science (curriculum in English)

1 st 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
2 nd 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 <i>Vantage</i> *) 30 credits Thesis

* Common European Framework of Reference



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

MEDFOR	SUTROFOR	SUFONAMA
<ul style="list-style-type: none"> • Lisbona • Padova • Lleida • Porto • Viterbo • Valladolid • Karadeniz (TUR) 	<ul style="list-style-type: none"> • Copenaghen • Dresda • Bangor • Padova • Montpellier 	<ul style="list-style-type: none"> • Copenaghen • Goettingen • Bangor • Padova • Alnarp

All teaching in English (only in Montpellier: French)

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)

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; multifunctional role of responsible managed forests in providing products and services; the international market framework; responsible trade in Mediterranean forest products and services.
- Social 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 (3 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 (3 ECTS)
5. Forest policies and conflict management in forestry (3 ECTS)

About MEDFOR
MEDFOR - Mediterranean

A two-year world-class European research programme through the 1st, 2nd, 3rd and 4th years of the BSc and a multidisciplinary 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 forestry supply chain segments (e.g. forestry and natural resources organizations, either public or private, either national or international).

www.sutrofor.eu

SUTROFOR Erasmus Mundus MSc in Sustainable Tropical Forestry

ABOUT SUTROFOR UNIVERSITIES HOW TO APPLY SUTROFOR STUDIES

SUTROFOR Programme

The MSc Course in Sustainable Tropical Forestry (SUTROFOR) offers:

- A two-year world class MSc
- Focus on sustainable tropical forestry
- Study at two leading European universities
- Research-based teaching
- Double Degree



Universities



SUTROFOR ADMISSION 1

The call for Erasmus Mundus MSc selection results will be published by Self-financed students from within 10 August 2012.

Deadline for the next call is 1 December 2012.

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 framework 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 Organisations	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
Total		60

ERASMUS MUNDUS

www.sufonama.eu

SUFONAMA Programme
The PhD-Course in **Sustainable Forest and Nature Management (SUFONAMA)** offers:

- A two-year world class MSc
- Focus on sustainable management and natural resources
- Study at two leading European universities
- Research-based teaching
- Double Degree
- EU Scholarships

Second year at University of Padova
University of Padova offers the Specialization **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 Landscape	10
3	Valuation and Assessment of Forest and Environmental Goods and Services	6
4	Mountain Forest Management and Watershed Restoration	6
5	Thesis	30
Total		60

ERASMUS MUNDOUS

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



DOCTORAL SCHOOL
Land Environment Resources and Health (L.E.R.H.)

INTERNATIONAL SUMMER SCHOOL
Sustainable management and governance of the forest landscape in the 21st century
Registration deadline: 15th April 2012

DOCTORAL SCHOOL
Land Environment Resources and Health (L.E.R.H.)

ERASMUS MUNDOUS
A fully integrated three-year doctoral programme
Based on the scientific fields of forestry and energy & agriculture
Research in applied research and joint supervision
Joint research with leading international universities in Africa, Asia, Australia, Europe and North America
Erasmus PhD Fellowships

Call open - application for FONASO fellowships
The call for applications for study starts in the 1st of 2012 is now open.
The deadline for applications is 1 November 2012.
The research topics for the call have been published and can be found here.
Application form is available here.

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

www.fonaso.eu/

2. Qualification Framework development

- Monitoring employability
- Links with the professionals
- Links with the institutions
- Students' evaluation

Qualification Framework Links with the market (employment opportunities)

ALMA LAUREA

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
Number of graduates: 1,621
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

Qualification Framework Links to 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

CONSIGLIO DELL'ORDINE NAZIONALE DEI DOTTORI AGRONOMI E DEI DOTTORI FORESTALI

Collegio Nazionale degli Agrotecnici e degli Agrotecnici Laureati

A.U.S.F. PADOVA PRESENTA:
"INCONTRO CON LA PROFESSIONE"

29 MAGGIO, ORE 11:00, AULA 10, PENTAGONO

Programma:
Ore 11.00 Presentazione dell'Ordine dei Dottori Agronomi e Dottori Forestali
Ore 11.30 Presentazione del Collegio degli Agrotecnici e degli Agrotecnici Laureati
Ore 12.00 Spazio per le domande, volte a favorire un confronto costruttivo.

Durante le presentazioni verranno affrontati i seguenti argomenti:
in cosa consiste l'esame di abilitazione e come si svolge, cosa è un albo, come è organizzato, quali sono le competenze, come ci si iscrive e quali servizi vengono offerti agli iscritti.

Interventano:

CONAI: CONSIGLIERE NAZIONALE DELL'ORDINE DEI DOTTORI AGRONOMI E DOTTORI FORESTALI: Graziano Martello	COLLEGIO AGROTECNICI: PRESIDENTE DEL COLLEGIO NAZIONALE DEGLI AGROTECNICI E DEGLI AGROTECNICI LAUREATI: Roberto Orlandi
PRESIDENTE DELLA FEDERAZIONE DEGLI ORDINI DELLA REGIONE VENETO: Gianluca Cantaro	CONSIGLIERE DEL COLLEGIO NAZIONALE DEGLI AGROTECNICI E DEGLI AGROTECNICI LAUREATI: Federico Minotto
PRESIDENTE DELL'ORDINE DI PADOVA: Giacomo Gazzin	PRESIDENTE COLLEGIO PROVINCIALE DI PADOVA: Pierluigi Rigato

MODERATORE DELL'INCONTRO: Paolo Farolfi

Qualification Framework Links with the institutions

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, Instituto Nacional de Investigación y Gestión Forestal, Faos et Forests (INRIGREF), Tunisia, Forest Technology Center of Catalonia (CTFC), Spain, Institut National de la Recherche Agronomique (INRA) - Unitat de Recerca Ecologia dels Forests Mediterrànies, 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 (arcMED), the World Wildlife Fund Mediterranean Office (WWFMed), the Association Internationale Forêt Méditerranéenne (AIFM) and the Food and Agriculture Organization (FAO).

Qualification Framework The students' course evaluation

Erasmus Mundus MSc overview of student applications

1. Background information
The Erasmus Mundus MSc (www.sutrofor.eu) was approved by the Commission with an overview programme. The main source of discussion among countries is the SUTROFOR programme. The EC approval of the year 2015 with the last students of the programme.

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

2.1 Basic statistics (applying Table 1, based on SUTROFOR)
The SUTROFOR programme. The EC approval of the year 2015 with the last students of the programme.

Table 1: Overview of main SUTROFOR, 2006-12

Year	2006
No. of applicants	207
No. of accepted students	23
Percent accepted	8.6%
No. of students graduating	23
Percent drop-outs	0%

Student evaluation of the entire SUTROFOR programme includes questions closely related to the five Dublin Descriptors for the second cycle (i.e. MSc level educational programme). The Dublin Descriptors are essentially indicators for general skills that students should possess upon completion of an MSc Programme. These are interesting as they allow us to report on student evaluation of SUTROFOR in relation to widely accepted general European indicators. Table 4 below reports the consortium level results for each of the nine provided questions; the official goal of SUTROFOR is to obtain mean scores of at least 4.0 (very good) in each category.

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*	
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
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
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. I am able to reflect on social and ethical aspects of contemporary tropical forestry issues.	4.7	4.5	4.2	4.5
5. I can communicate my conclusions, and the knowledge and rationale underpinning them, clearly, concisely and confidently in spoken and written formats to specialist and non-specialist audiences.	4.7	4.5	4.2	4.5
6. The learning skills I have acquired will allow me to continue to study in a manner that may be highly self-directed or autonomous.	4.9	4.5	4.3	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
8. The SUTROFOR programme was just like I expected at the time of application.	4.5	3.8	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	4.3

* Most recent evaluations have not yet been analysed

Qualification Framework The students' evaluation

UNIVERSITÀ DELLA SARDEGNA
VALUTAZIONE DELLA DIDATTICA

Opinione degli Studenti - Risultati di Sintesi 2012-2013
Attività Didattica: FOREST POLICY - Docente: Petronella Davide Mattia

Numero Rispondenti: 15

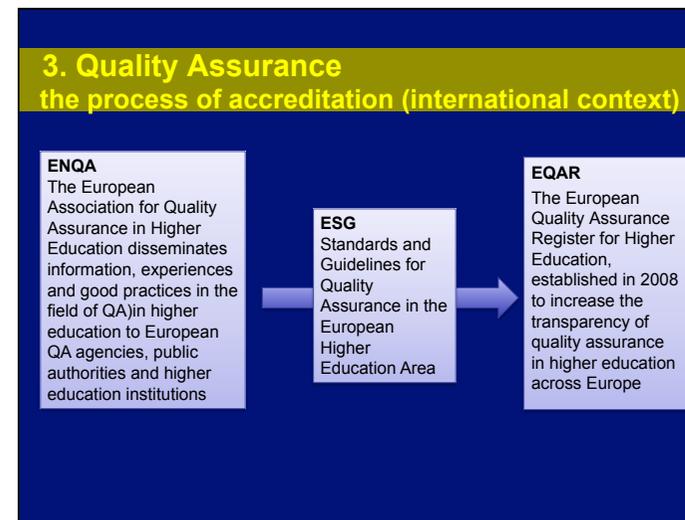
Attività Valutata: 5.0
Questionari Proposti: 5/5
Questionari Completati: 5/5

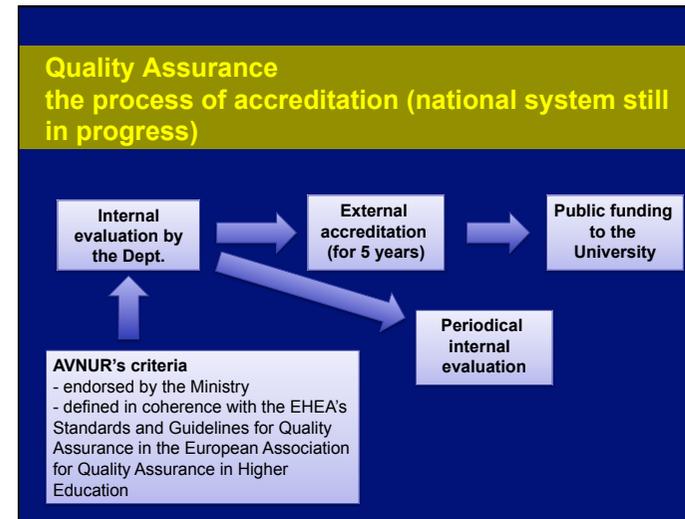
Media delle risposte in questo questionario: 8.3

Soddisfazione complessiva
Media delle risposte in questo questionario: 8.3
"Completamente, quanto al ritiene soddisfatto di come si è svolto il corso?"

Aspetti organizzativi
Media delle risposte in questo questionario: 8.3
"Affidarsi delle attività gli obiettivi e i contenuti di questo insegnamento sono stati presentati in modo chiaro?"
"La modalità d'esame sono state definite in modo chiaro?"
"Gli orari di svolgimento dell'attività didattica sono stati rispettati?"
"Il materiale didattico consigliato è stato adeguato?"

Azione Didattica
Media delle risposte in questo questionario: 8.3
"Il docente ha stimolato/motivato l'interesse verso la disciplina?"
"Il docente ha seguito gli argomenti in modo chiaro?"
"Il docente è stato disponibile nei confronti delle esigenze degli studenti?"





- ### 4. 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 **2nd 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**

СПАСИБО!



This presentation can be downloaded from: www.tesaf.unipd.it/pettenella/