UNIVERSIDAD POLITÉCNICA DE MADRID
(TECHNICAL UNIVERSITY OF MADRID)

Escuela Técnica Superior de Ingenieros de Montes
(School of Forestry)

Forestry Graduates from the Technical University of Madrid: Present Situation and Future Perspectives

Fernando García Robredo

Outline of the presentation

- Forestry studies in Spain
- The School of Forestry of the U.P.M.
- Forestry Graduates
  - Origin of graduates
  - Employment characteristics
  - Fields of activity
  - Level of salary
- Issues and challenges

Forestry studies in Spain

Long cycle forest engineering studies: 7 universities

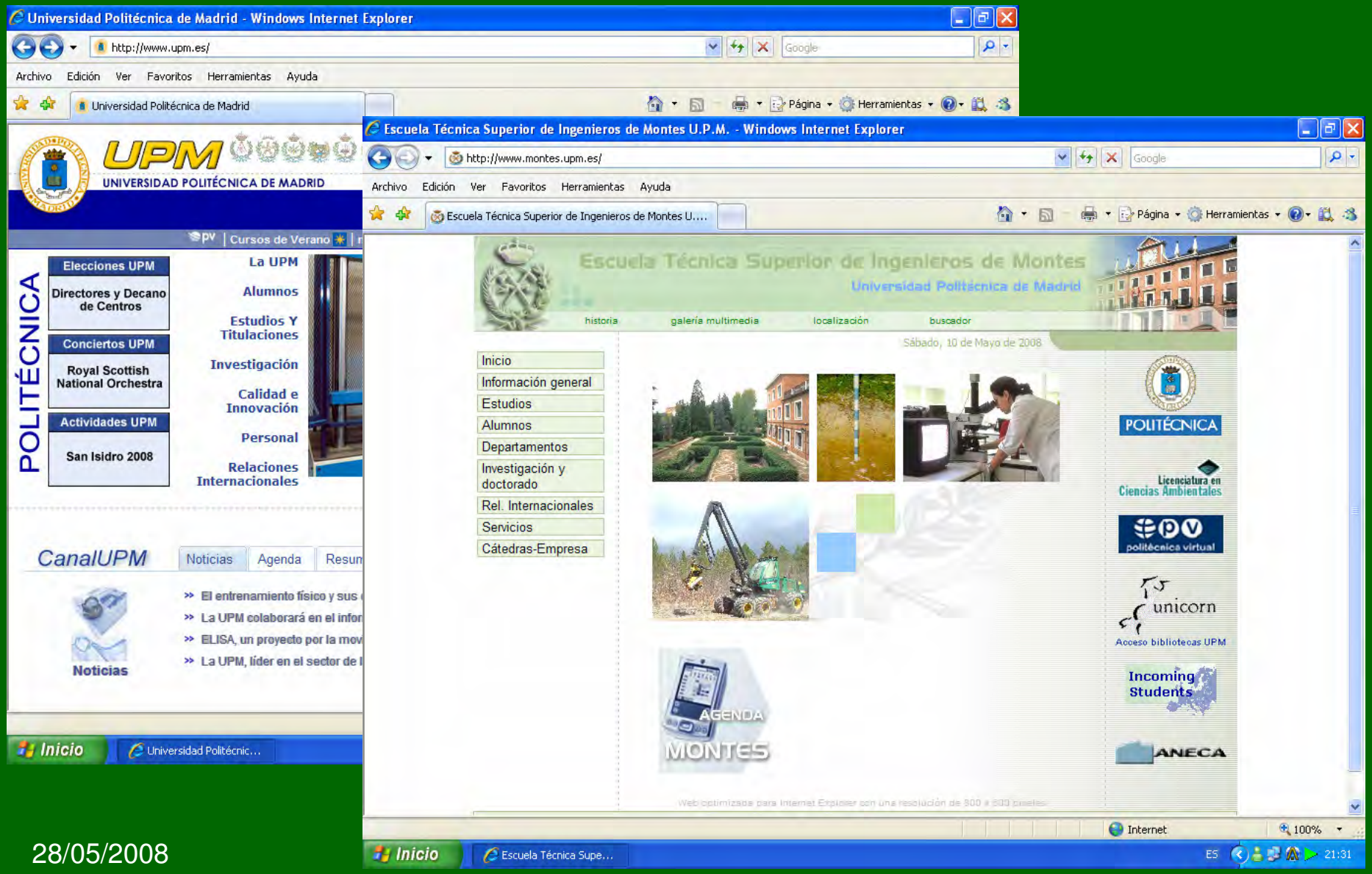
Short cycle forest engineering studies: 13 universities

The School of Forest Engineering

- Founded in 1848
- Different locations:
  - 1848-1870: Villaviciosa de Odón
  - 1870-1914: El Escorial
  - From 1914: Madrid

  - Since 1945 it is located in the University Campus shared by the U. Complutense and the U. Politécnica.
- In 1971 it became one of the Schools that make up the *"Universidad Politécnica de Madrid"*.

The Technical University of Madrid



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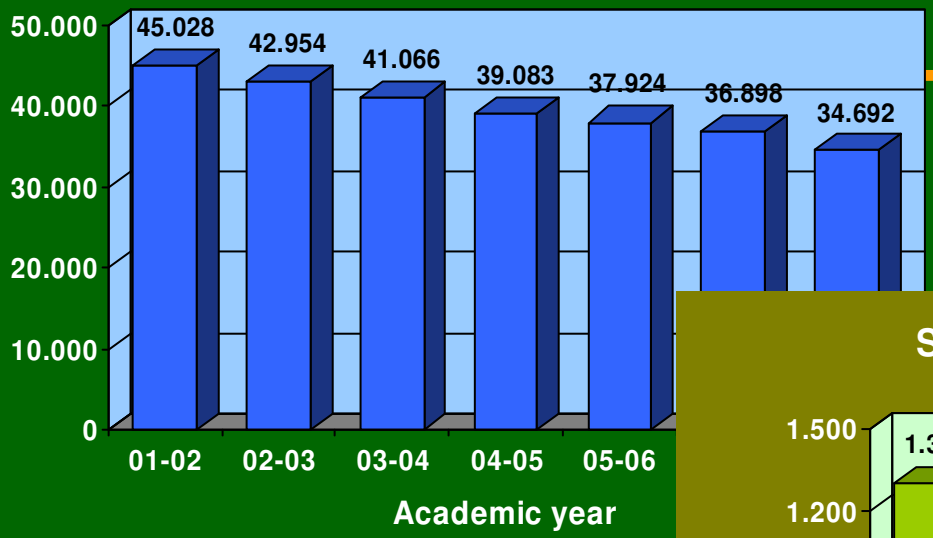
The Technical University of Madrid

Some figures	Technical University of Madrid	School of Forest Engineering
Faculty	3,303	123
Administrative personnel	2,229	91
Undergraduate students	34,692	752
Graduate students	2,178	123
International students	861 + 355	12 + 15

Data for academic year 2007/2008

Number of students

Students in the U.P.M.

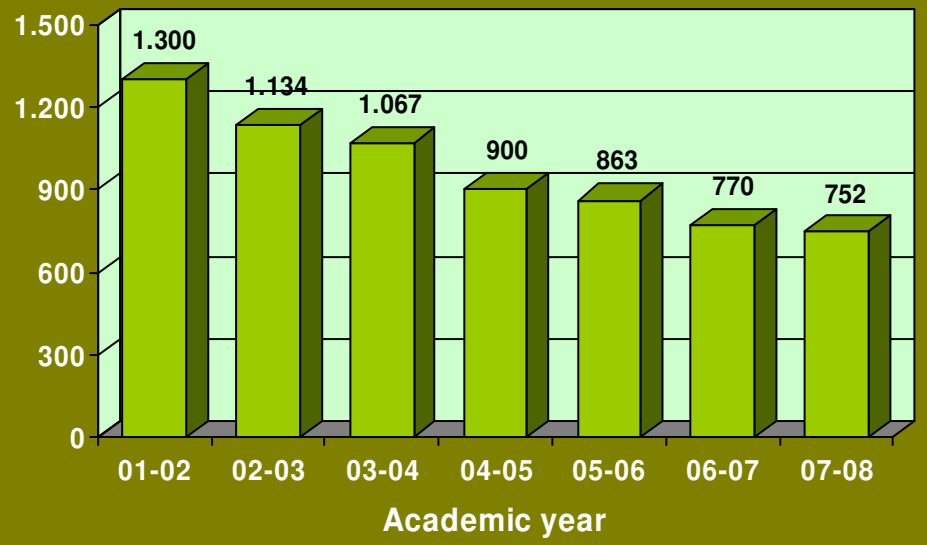


Decrease during the last 6 years:

23% (U.P.M.)

42% (School of Forestry)

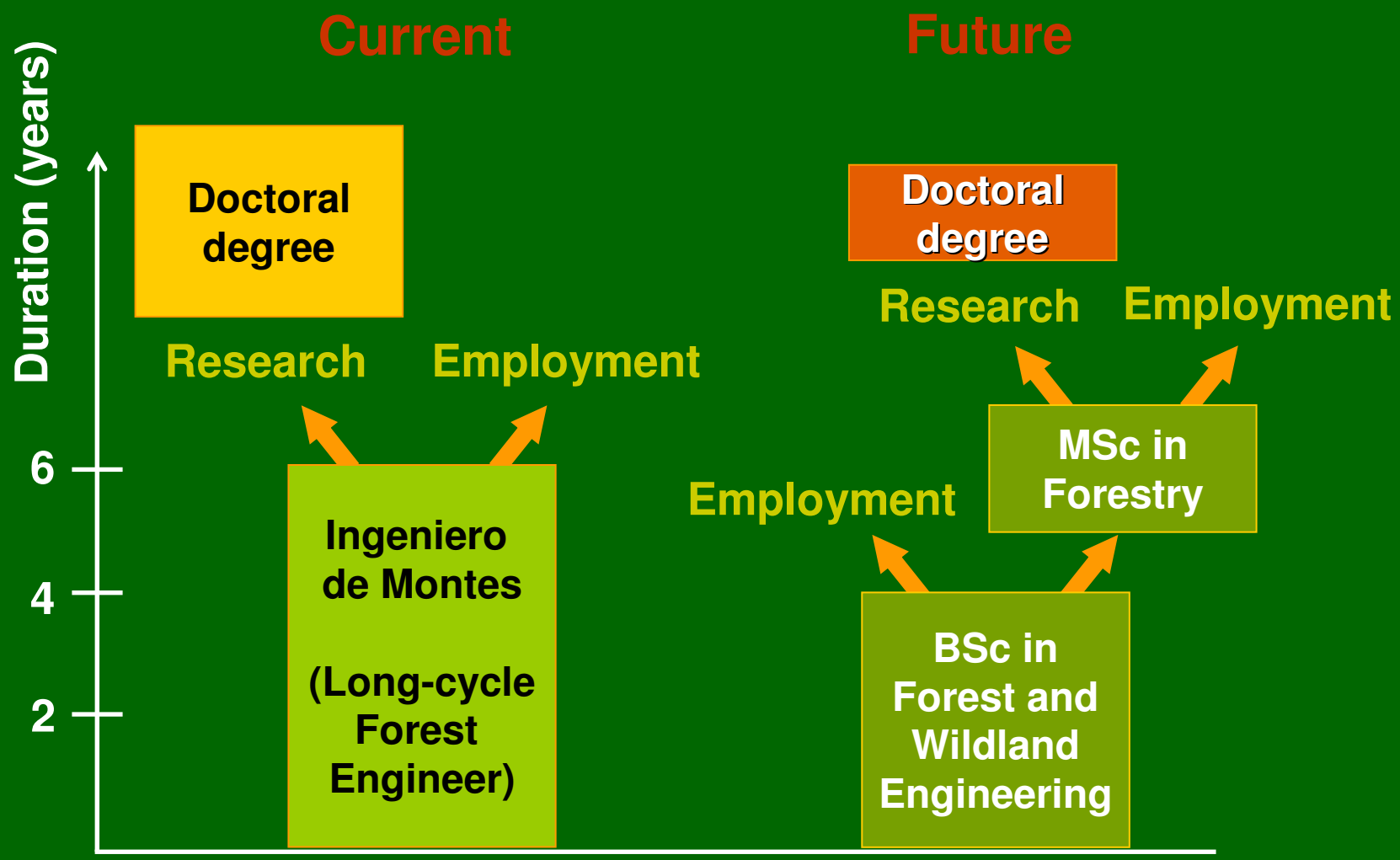
Students in the School of Forestry



Students who graduated in academic year 2006-07:

	#	%
U.P.M.	3,790	(10.3%)
S. of Forestry	101	(13.1%)

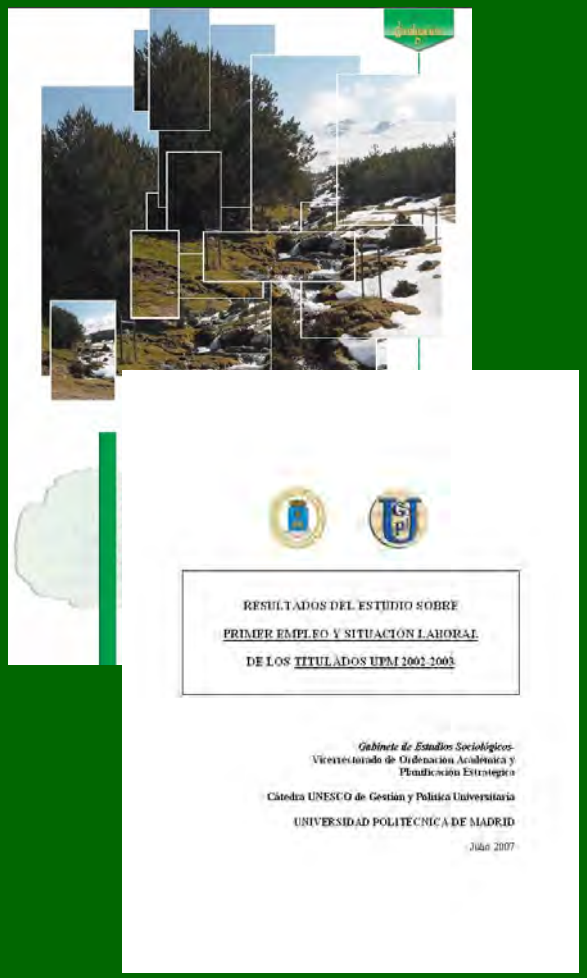
Curriculum structure



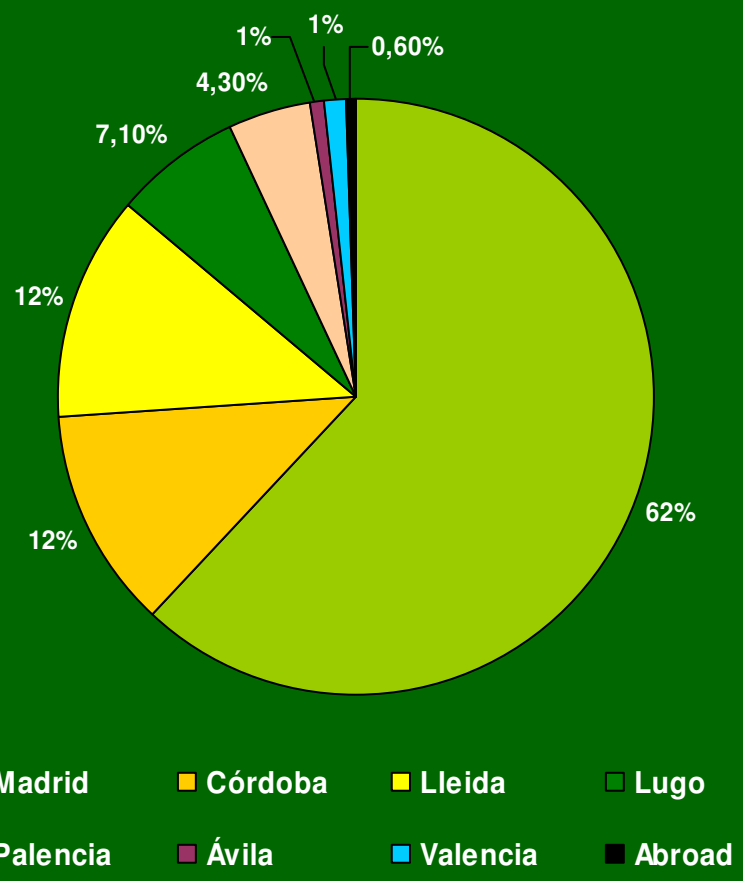
Situation of Forestry graduates

Three main sources of information:

- Two surveys carried out by the Colegio de Ingenieros de Montes (Professional Association of long-cycle Forest Engineers in Spain):
  - December 2002
    answered by 366 registered forest engineers, 14% of the study population.
    Published in *Montes*, 2003.
  - May-July 2006
    answered by 176 registered forest engineers, 5% of the study population.
    Not published.
- One survey carried out by the Universidad Politécnica de Madrid in 2007.
  First job and working situation of graduates who completed their studies in 2002-2003.



Origin of graduates



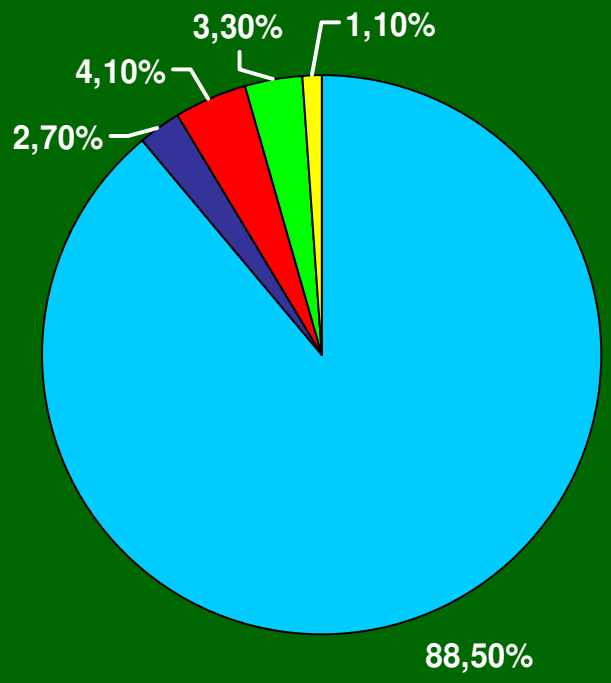
In december 2007, there were 3,621 registered long-cycle forest engineers in Spain.

School of provenance:

62% of the registered long cycle forest engineers in Spain obtained their degree at the School of Forestry of Madrid.

Source: Colegio de Ingenieros de Montes, 2008

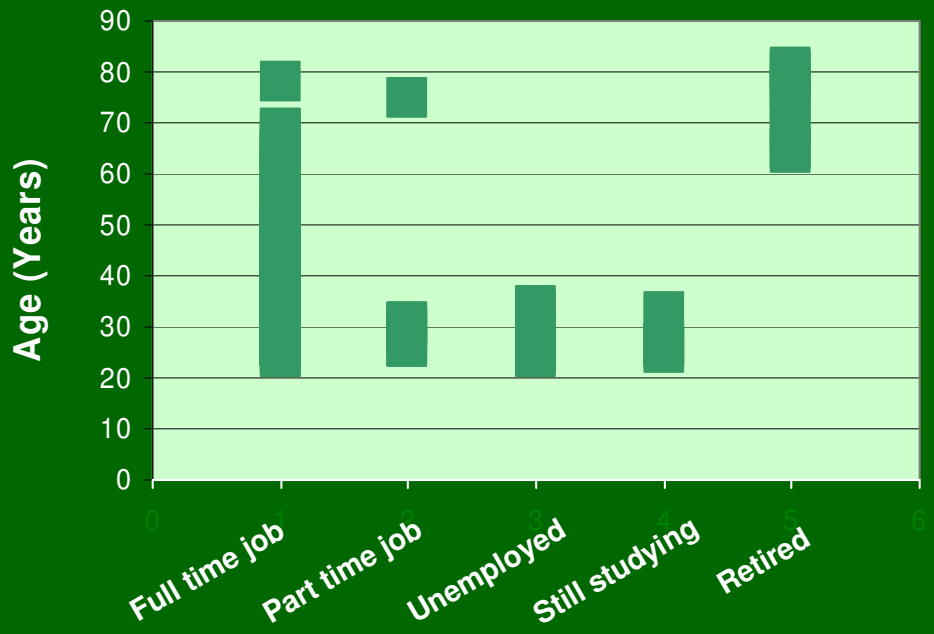
Employment situation



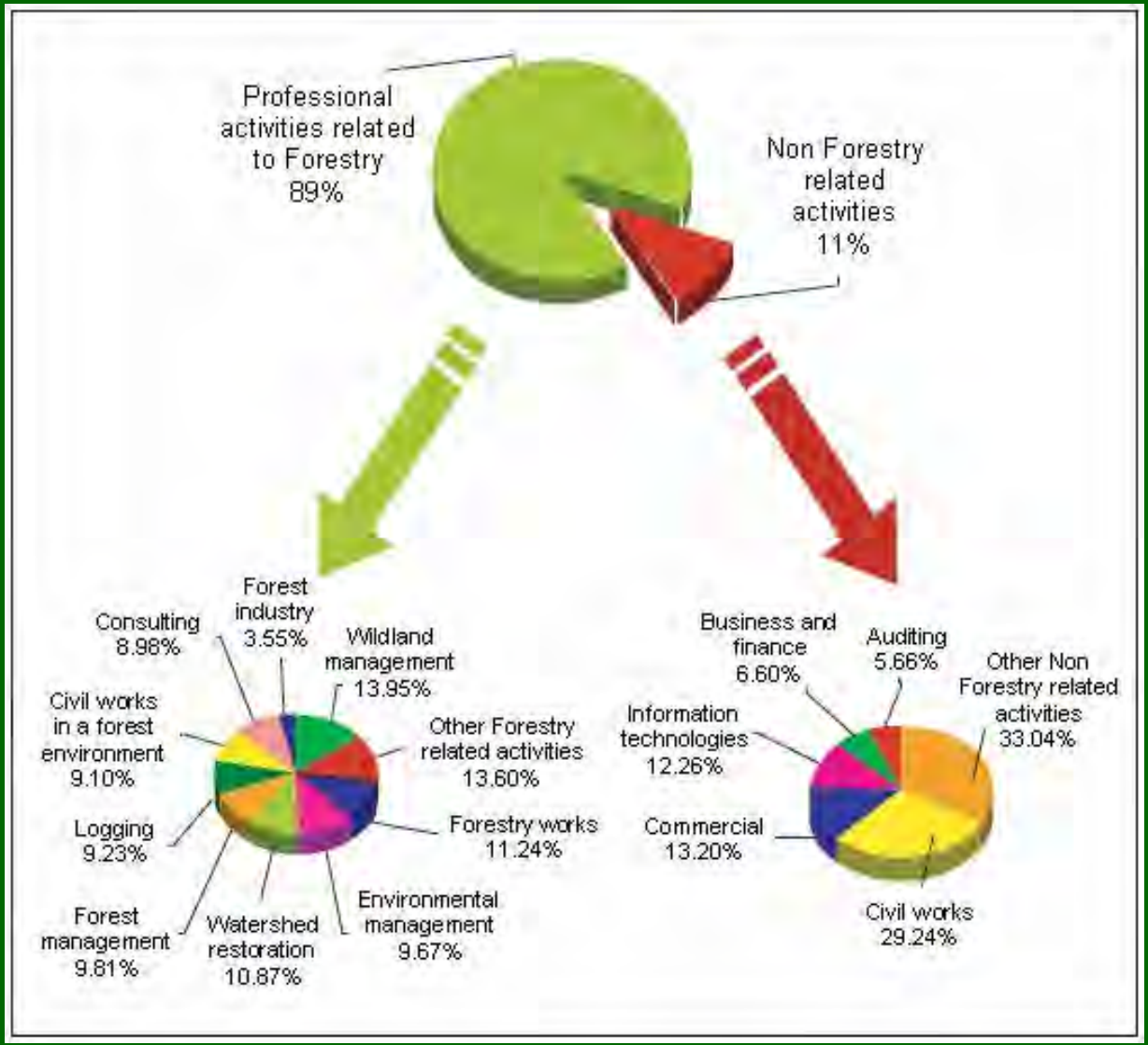
Average time spent finding a job:

4 months and 6 days

Employment situation by age

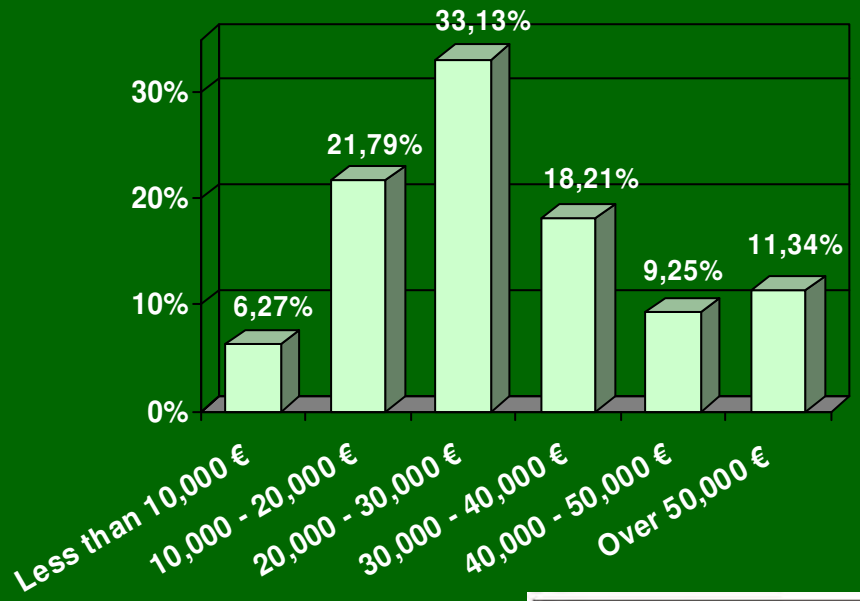


Professional activities



Source: Colegio de Ingenieros de Montes, 2003

Salary

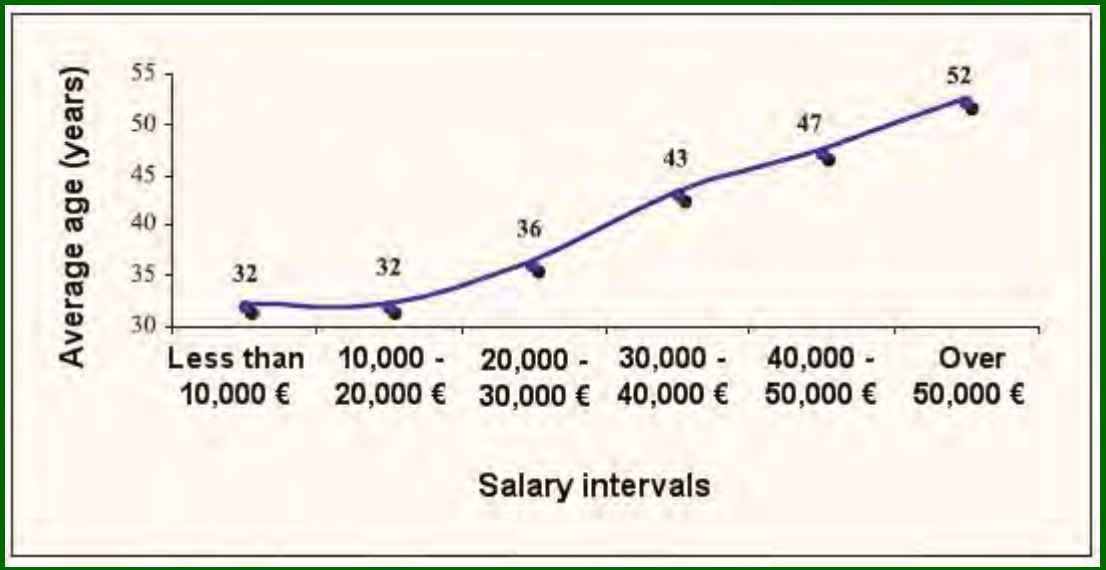


The majority of the people in the sample has an income from 20,000 to 30,000 €, and 55% of them work for private companies, 28% are public officials, and 11% are entrepreneurs.

Most of the people who earn over 50,000 € are public officials (58%), while 29% work for an employer and only 3% are freelance or entrepreneurs.

Source: Colegio de Ingenieros de Montes, 2003 (Data from 2002)

There is a relationship between age and salary.



Perceived quality of education

Knowledge and skills acquired:

Graduates perceive they have a very good knowledge of:

- Botany, Range Management, Soil Science, Mathematics, Structural Analysis, Plant Physiology, Hydrology, Forest Mensuration and Ecology.

On the other hand, they think their level of knowledge is very low in:

- Chemistry, Fish and Game Management, Business Administration, Valuation, Environmental Impact Assessment, Statistics, Electricity and Thermodynamics.

Source: Colegio de Ingenieros de Montes, 2003

Perceived quality of education (II)

Usefulness of the skills acquired:

Courses that were useful in the professional practice:

- Botany, Project Design and Management, Silviculture, Afforestation techniques, Mapping and Photogrammetry, Environmental Impact Assessment, Forest Mensuration, Hydrology, Ecology and Forest Management.

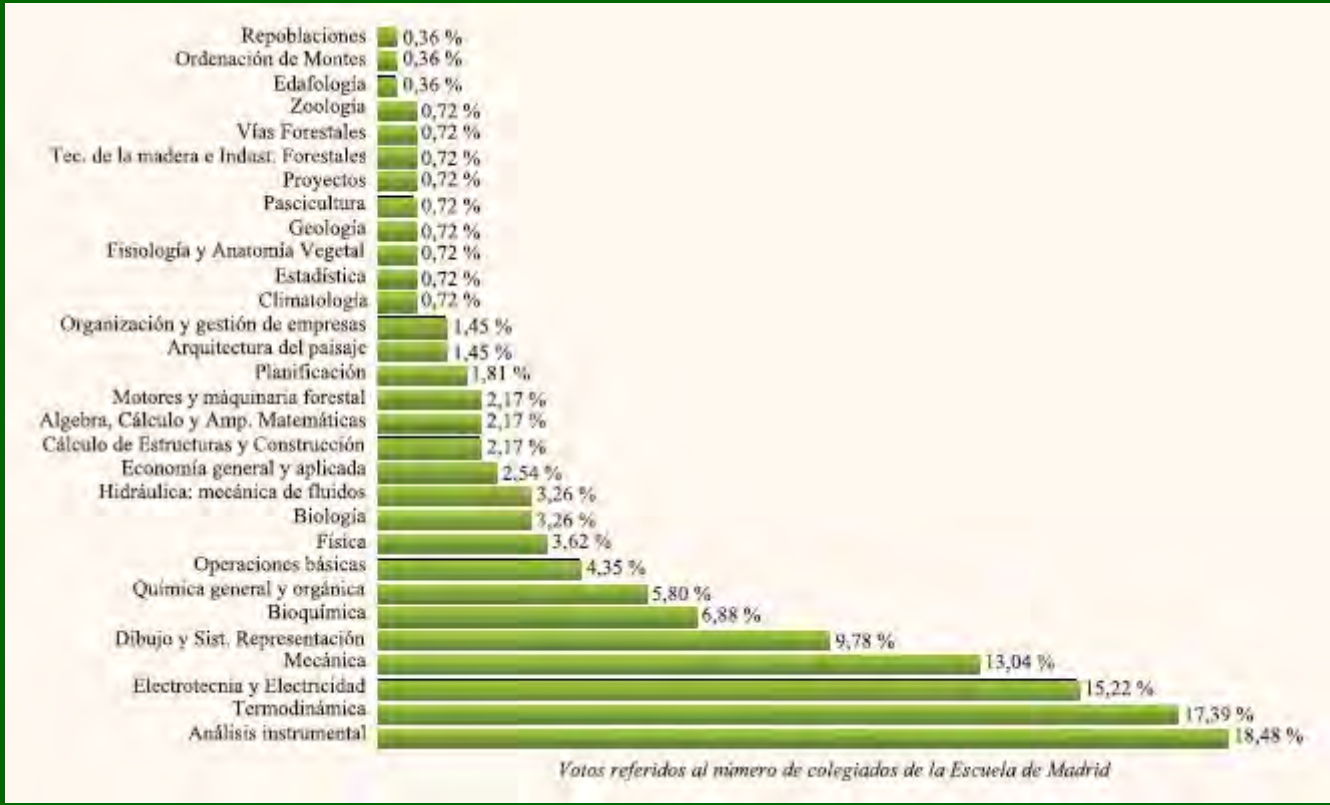
Courses that were considered useless:

- Chemistry and Biochemistry, Thermodynamics, Electricity, Mechanics, Physics, Genetics, Plant Physiology, Technical Drawing and Hydraulics.

Source: Colegio de Ingenieros de Montes, 2003

Perceived quality of education (III)

Courses that should be eliminated from the curriculum:



Source: Colegio de Ingenieros de Montes, 2003

Perceived quality of education (IV)

What to do?

- Encourage the updating of some courses in order to meet the demands of society.
- Establish compulsory training in private and public companies as part of the curriculum. ➔ Links with the working world.
- Faculty must be linked to professional practice.
- Increase practical courses and reduce theoretical courses.
- Courses on Computer Applications, Business, and foreign languages.
- Reduce the courses on basic subjects such as Math, Physics, …
- Shorten the duration of the studies.

Source: Universidad Politécnica de Madrid, 2007

Issues and challenges

- Decrease in the number of students.
- Oversized faculty.
- Old curriculum (courses and programs need to be updated.
- Public funding shortfalls (need for revenue generation and cost cutting).

Thank you for your attention!

Fernando García Robredo
E. T. S. de Ingenieros de Montes
Ciudad Universitaria, s/n
E-28040 MADRID, SPAIN

fernando.garcia.robredo@upm.es