GEOMATICS EDUCATION IN SPAIN: influence of the new legal framework (October 2007) which establishes the regulation of the official university system.

Congress on Geomatic Education in Europe

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Introduction

- Since the Bologna Declaration in 1999
  - Laws
    - LOU 6/2001 modified by law 4/2007
    - RD 1044/2003 – Diploma Supplement
    - RD 1125/2003 – ECTS
    - RD 1393/2007 – New Higher Education System
  - Working Groups
    - International – EEGECS
    - National – “White Paper of the Graduate Degree in Engineering in Geomatic and Topography”
    - Universities
  - Commission
    - Quality, e-learning, innovation, ...

Present Education System

3 years

- **1st cycle: Surveying Technical Engineer**

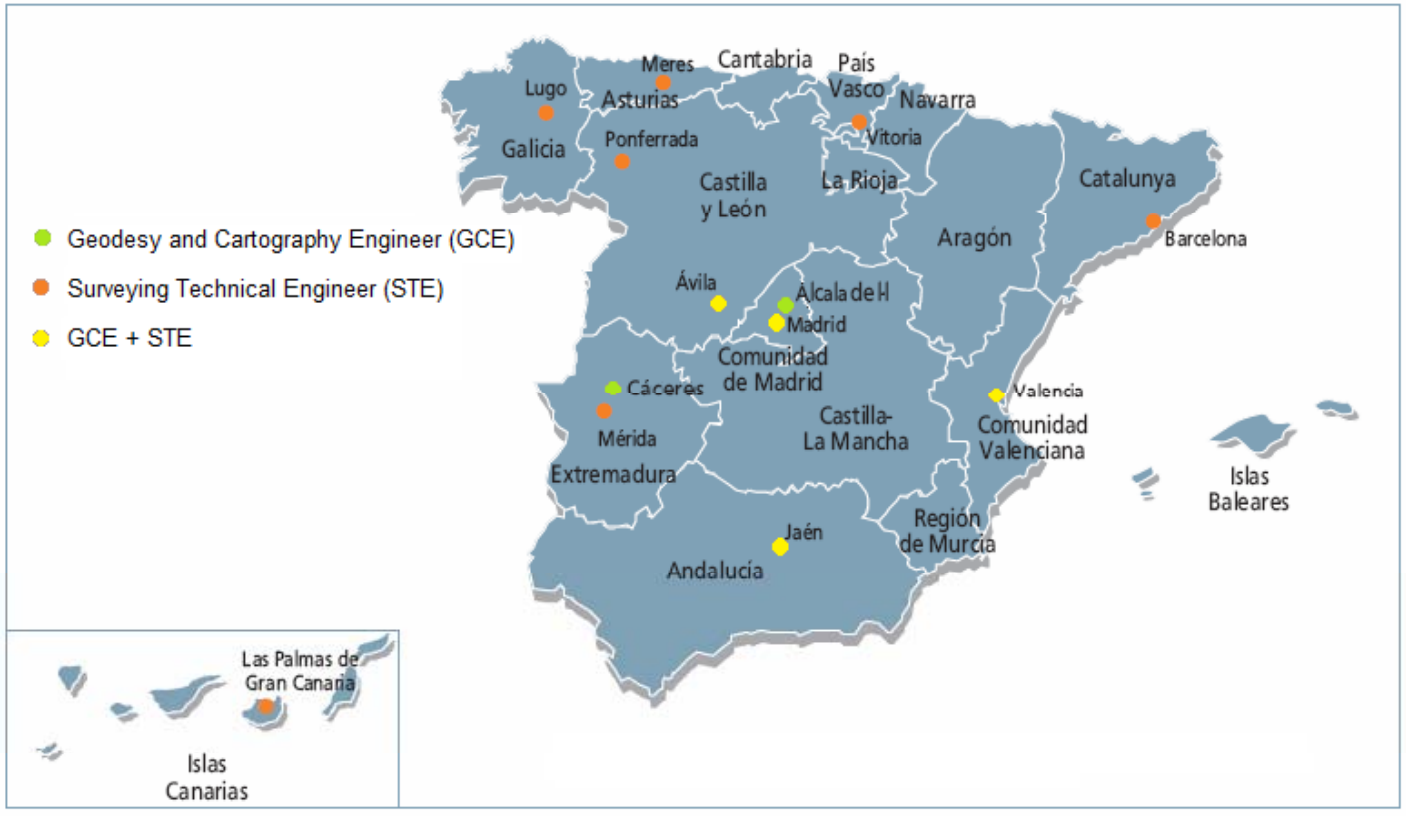
2 years

- **2nd cycle : Geodesy and Cartography Engineer**

±2 years

- **Doctorate:**
  - **Teaching Period**
    - **Course (min. 20 cr.)**
    - **Research work (12 cr.)**
  - **DEA: Advanced Studies Diploma**
  - **Thesis**

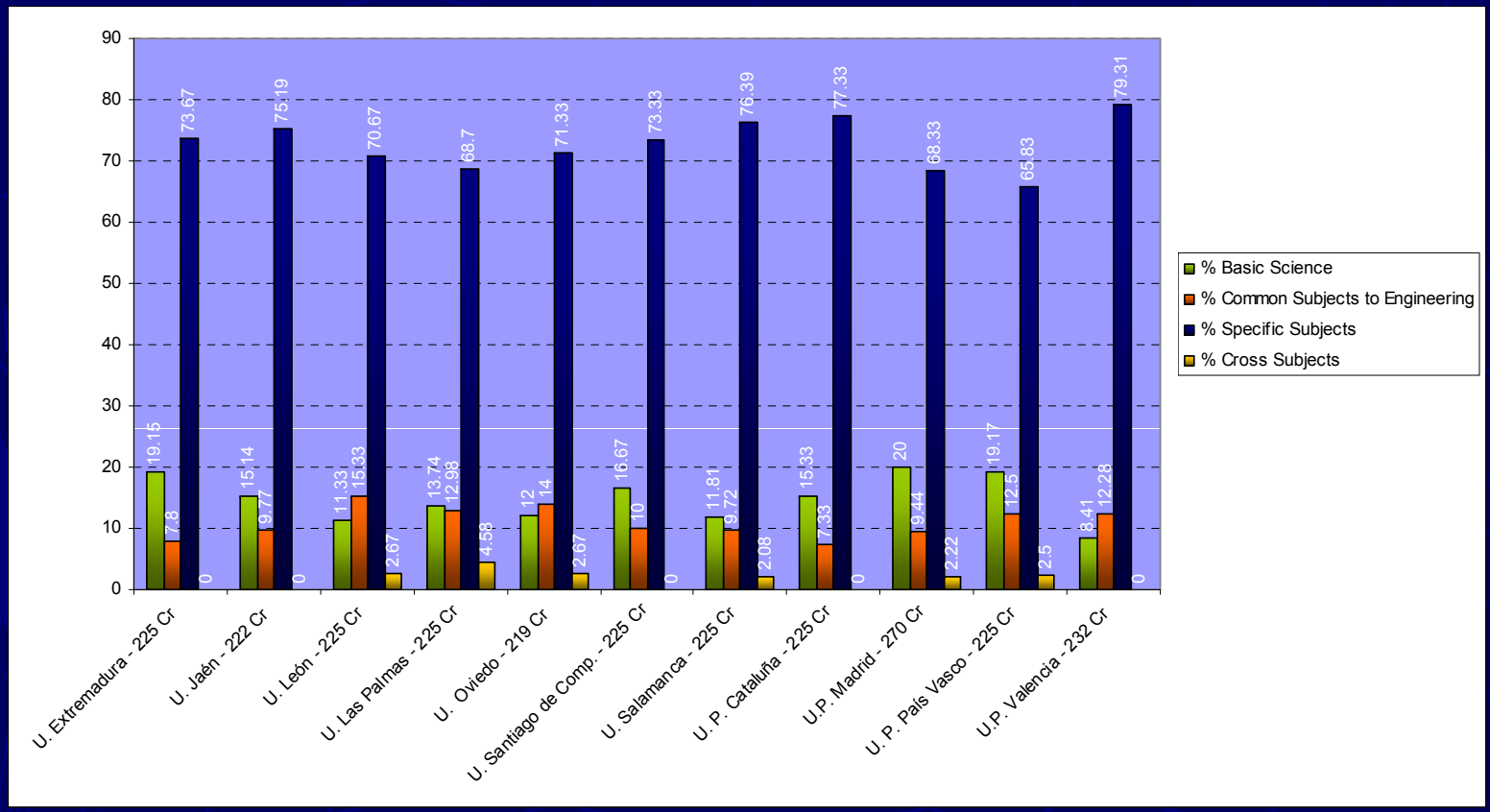
Location of the Universities



- Polytechnic University of Madrid
- Polytechnic University of Valencia
- Technical University of Catalonia (Barcelona)
- University of Alcalá (Alcalá de Henares)
- University of the Basque Country (Vitoria)
- University of Extremadura (Mérida + Cáceres)
- University of Jaén
- University of Las Palmas (Las Palmas de Gran Canaria)
- University of León (Ponferrada)
- University of Oviedo (Mieres)
- University of Salamanca (Avila)
- University of Santiago de Compostela (Lugo)

Current Situation on Geomatics Education

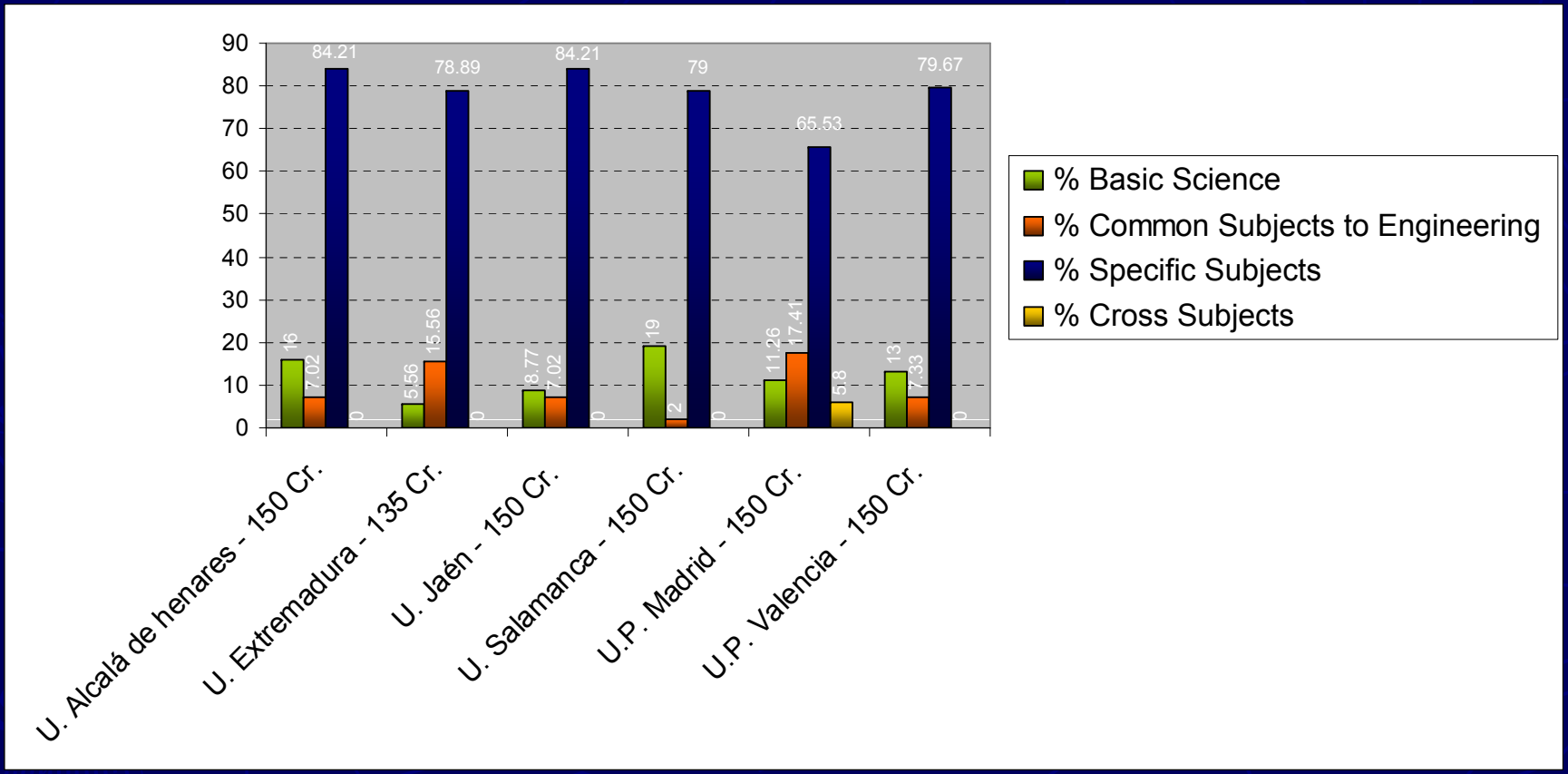
- **1st University cycle: Surveying Technical Engineer**



Specific: Surveying, Geodesy, Instrumentation & Technology, Photogrammetry & Remote Sensing, Cartography & GIS

Current Situation on Geomatics Education

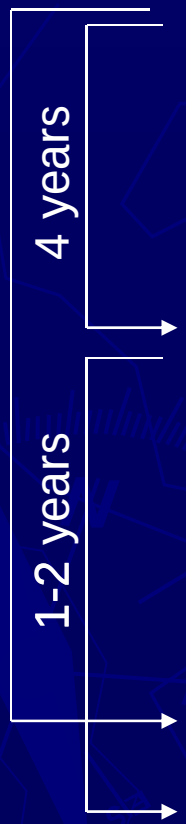
- **2nd University cycle : Geodesy and Cartography Engineer**



New Legal Framework (October 29th, 2007)

- RD 1393/2007 (October 29th, 2007)
  - Structure the new education system
  - General objetives
  - Elements of the new programmes
    1. Description
    2. Justification
    3. Objetives
    4. Entrance system and student admission
    5. Academic Staff
    6. Material resources and services
    7. Expected result
    8. Quality system
    9. Schedule
  - Verification and acreditation

New structure of geomatic education according to the new education system (October 29th, 2007)



- BSc (240 ECTS): Graduated in “Engineering in Geomatic and Topography”
- MSc (60 – 120 ECTS): Master in “Engineering in Geodesy and Cartography”
- Doctorate:
  - Teaching PhD Period
  - Research Period (Thesis)

New Geomatic Education

- In Spain there are professions regulated by laws and non regulated.
- The Ministry of Education has asked to the professional associations, the definition of: title, objectives, competences and minimum contents of each regulated profession.
- Problem:
  - Engineering in Geodesy and Cartography is a non regulated profession.
  - The government is only working with regulated engineering.

Graduated in “Engineering in Geomatic and Topography”

- Proposal in the White Paper: Graduate Degree in Engineering in Geomatic and Topography

Groups of courses	Min. ECTS	Topics
Basic Science	34	Mathematics. Physics. Computing.
Common Topics To Engineering	20	Civil Engineering. Environmental Engineering. Geomorphology. Engineering Projects. Graphic Expression.
Specific Topics of Geomatic Engineering	100	Topography; Adjustement theory; Photogrammetry and Remote Sensing; Cartography and Geographic Information Systems (GIS); Geodesy: Mathematics, Physics and satellital; Astronomy and Geophysics; Analysis and information management of the land.
Cross Topics	7	Economy; Law.
Final Project	6	

Note: until 240 must be defined by each university

Requirements

- Basic Sciences - Min. 60 ECTS
- External trainning (in companies or public institutions) – Max. 60 ETCS
- Others activities (cultural, sports, solidarity and cooperation) – Max. 6 ECTS
- Final Project – 6/30 ECTS
- Each course, at least, 6 ECTS

Master in “Engineering in Geodesy and Cartography”

- Engineering in Geodesy and Cartography is not a regulated profession in Spain.
- the creation of an official Master depends on the decision of the Ministry of Education
- it is necessary to work towards a Master’s degree with the consensus of all the universities and professional associations, as was achieved for the Bachelor’s degree.
- Universities can propose their own Masters in the field of Geomatic, but the qualification will not give access to the practice of professional activities with specific functions .

Calendar

- Definition of the educative programmes by the universities
- University Council
- ANECA (National Agency for Assessment Quality and Accreditation).
- Verification.
- Registration in the RUCT (Register of Universities, Centers and Titles).
- Renewal of the acreditation each 6 years.
  - October, 2008 or 2009 – 1st studies with the new programme, adapted to the European Higher Education Area.
  - October, 2010 – Only these studies can be offered by the universities, leaving the current degrees to become obsolete before September 2015.

Thank you!

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