

# The Professional Profile of the “Geometra” in the Third Millennium

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## ABSTRACT

The training course to approach the profession of surveyor is going to be transformed. The circumstance, in Italy, of the reform of the university by means of the introduction of three years university degree and specialistic masters of biennial duration, has constituted the chance to reconsider the titles that allow the access to the surveyor profession.

The new regulations approved by the Council of Ministers forecast, for the category, two different courses to approach the profession. To the course already previewed from the enforced regulations (school leaving examination, two years of practical training period with a qualified professional or five years of subordinate technical activity and to the end of such periods the overcoming of the State examination), joins in parallel the triennial bachelor and that one founded on the frequency with positive outcome of course of instruction and advanced technical formation lasting at least two years. Also to the end of these two new courses will be necessary to undergo the State examination and adapted training that will be defined, in the ways and the times, by the Consiglio Nazionale Geometri.

The authors illustrate the new course of studies for graduated surveyors let alone the proposal of the Consiglio Nazionale Geometri for the attainment of one specialistic bachelor of expert in the field of the geomatic and geodesy to the aim to occupy a very defined field of the market like sole expert technicians, in harmony with the cycle of studies previewed in the rest of the European countries.

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Technological development and the fast-moving transformations it is introducing are undoubtedly boosting the liberal professions.

Furthermore, the development and specialization of knowledge requires a response in terms of the specialization of the educational process, which need is greatly felt by the professions to which access, to date, was guaranteed by the secondary school leaving certificate.

The educational process to access the profession of “geometra” is undergoing change. The Directive No. 89/48 had established, for the purpose of the mutual recognition of the free circulation of professionals, that the required training should provide for a minimum of three years after secondary school. The university reform in Italy, with the introduction of new three-year degree courses followed by specialist two-year courses, has represented an opportunity to reconsider the qualifications allowing access to the profession of “geometra”.

The D.P.R. No. 328/2000 envisages, for the category of “geometri”, different educational processes for sitting the state examination. To the process established under the current applicable regulations (“maturità di geometra, followed by two years of traineeship at a qualified professional’s, or five years of subordinate technical activity), in fact, one must add, in parallel, that requiring a three-year degree course (including the traineeship). Members of the association of “geometri” holding a three-year degree, in fact, are entitled to the qualification of “geometra laureato”.

All those holding a specific diploma required by the regulations for registration with the professional association, have successfully attended the superior technical training and education courses (IFTS) for at least four semesters may sit for the state examination. At the end of the above-mentioned education processes it shall be necessary to sit a qualifying examination.

The integrated training system is a system of integrated offer between education, vocational training and work that young people and adults alike may choose, based on their individual pathways - consistently, from the point of view of contents and manner of fruition - with their own and the economic system’s development needs.

One of the characteristic aspects of the integrated training system is the recognition of the equal footing of all the parties involved, public and private (schools, universities, vocational training agencies, volunteer and social private organizations, enterprises).

The architecture of the system entails the construction of flexible pathways - in their general structure, methods and contents - aimed at acquiring the knowledge and skills that may be capitalized on and certified, at identifying and recognizing the credits referred to common

standards shared by schools, vocational training, universities, the system of enterprises and professions.

The following are achieved within the system:

IFTS: Istruzione e Formazione Tecnica Superiore / Superior Technical Education and Training

EDA: Educazione degli Adulti / Adult Education

OF: Obbligo Formativo / Training Obligations

The (architecture and engineering) disciplines envisaged by the government regulations for “Geometri”, are class IV, architecture and construction engineering sciences - VII, town planning and regional and environmental planning sciences - VIII, civil and environmental engineering.

The formation descending from the three above-mentioned classes will make it possible to preserve the peculiar characteristics of the “Geometra”, as a skilled technician whose work ranges from the field of building construction to surveying, from the handling of topographical and mapping data, to physical planning, the environment and assessments. Undoubtedly, the university education process is the only possible way for enhancing the value of certain points of specialization of multiple skills already acquired at secondary school. Prestigious universities have already concluded agreements with the Consiglio Nazionale Geometri to set up degree courses for “Geometri”.

One example is the partnership with the Faculty of Engineering of the Milan Polytechnic, which has set up a first level degree course in Engineering of the environment and of resources, with a specialization in surveying and mapping disciplines:

The course envisages the formation of a professional skilled in the surveying profession, with special attention to the following sectors: topography and representation, without neglecting building technology, estimates and law, the management of construction activities and sites. Among the contents of the course, special importance has been given to the teaching of the following subjects:

**Topography and observation of the territory**

Topography

Principles of geodesy

Drawing and automatic drawing

Cadastral applications

Territorial information systems

Geology

Applied geophysics

Geotechnics

totalling at least one third of the credits required for the qualification.

The course is completed with the teaching of Constructions and technologies, estimate and law, environment and safety.

Similar initiatives are under way with many other universities for a first level degree course for regional planning technicians, especially with regard to the formation of expert topographers.

In particular, this university qualification also springs from a series of experiences which, as from 1990, have been made in a number of Italian universities, following the partnership between the Consiglio Nazionale Geometri and the Cassa di Previdenza and several universities, and from which useful and interesting indications and orientations have been drawn.

The three-year degree course shall include a practical traineeship of 6 months. The objective is to train a qualified category capable of demonstrating its capacity to provide ready and effective services to society, in line with the legislators' goals, vis-à-vis the reform process, i.e. that of enabling young people to access the labour market - including the liberal professions - without any obstacles, after having attended secondary school or the first level degree course. This arrangement allows the graduates of the first level degree courses to immediately sit the examination for qualifying to practise the profession and to fully access membership of the professional association.

In parallel with and alternatively to the first level degree course, it is also possible to attend the Superior Technical Training and Education courses (IFTS), which are inclusive of training periods. These courses are four semesters long and include theoretical, practical and laboratory classes, thus allowing alternation between study and work. These courses too allow access to the qualifying examination for the profession of "geometra".

The "geometra's" social and professional role, and the educational process defining the configuration of this role, are called on today to address a context defined by decidedly new factors compared with the recent past, such as:

- the processes of European integration, requiring rigid adaptation, not just of a normative - institutional kind, but also of functional preparation, in respect of a market where there is the total liberalization of the workforce;
- the dynamics of the liberalization of the professions, in order not to boil down to simple conflict in an "unregulated" market, and the general devaluation of the profession, require specific guarantees and standards of transparency, and an educational - vocational training process of great cultural depth and with an innovatory and experimental character.

Based on their experience, our trade associations are in very close contact with schools, society and the world of labour, and are strongly rooted in the educational and training system at the local level.

This overall context undoubtedly represents a consistent and appropriate foundation, also in respect of the specific issue of the vocational training of "geometri".

From a historical point of view, and with regard to the role and recognizability of the social role of the Italian "geometra", it has always been a well-defined profession, which over the

years has increased its technical importance, but also its role as a mediator between the demands of the public, the enterprises and government.

The “geometra” is the only professional with the characteristics required to operate in the market as a designer, surveyor and assessor. Suffice it to mention the curricula of the technical schools for “geometri”, which contain the seeds for a specific basic training with the possibility of being completed at university level, besides certain specializations consisting of masters in the following fields, for example: GPS, geodetic and topographical sciences, GIS, etc.

With regard to this issue, the National Council is developing a proposal for a specialist degree course of expert in the field of geomatic engineering and geodesy, in order to occupy a well-defined segment of the market as the only expert technicians, consistently with the studies prescribed in the other European countries.

This specialist degree course could find a link at the European level with a Master in Geomatic Engineering, leading to practically a single university qualification throughout Europe. In Europe, in fact, in the professional associations there are specialist sections. In Italy too the new regulations governing access to the professions provide for the setting up of special sections of the association and the intention is precisely that of creating sections dedicated to the single specializations; in particular, for the category of “geometri”, it shall be possible to establish a section for topographical and cartographical, photogrammetric, etc. surveying.

The process that has taken place in Italy in the field of education has not introduced any radical changes, but it has adapted the current profile of the “geometra”, which is rather clear cut, to the needs of a fastly changing society, as mentioned above, within a process of increasing global integration.

It is precisely to take this into account that the above-mentioned educational process, up to the university qualification, has been designed.