

**Report for the 27th General Assembly
FIG Working Week in Athens, May 2004**

**Regional Reports
Latin America**

1. Introduction

Since 13 to 15 April 2004 there was the yearly meeting of the Educational Network for Latin America in Costa Rica, arranged by the Colegio de Ingenieros Topógrafos of Costa Rica.

The idea of creating this Network arose during the Symposium held in Puerto Rico in 2000 by the Colegio de Ingenieros y Agrimensores de Puerto Rico (CIAPR) and the Mayagüez University notifying the common problems, similarities, lacks and needs in most of the countries in Latin America. Mr. Robert Foster, President of FIG at that time supported the idea and underlined the need of such a Network. Members to the Network were elected in Mayagüez representing most of the countries present at the meeting and members of FIG.

The main goals of this Network are:

- To establish strong links among educational institutions in Latin America
- To facilitate a free flow and exchange of ideas, projects and people amongst these institutions
- To facilitate harmonization of curricula, if such is possible and necessary
- To facilitate a “common educational base”
- To facilitate mobility among professionals, teaching staff and students
- To improve, when ever necessary, the working conditions for professionals and to increase work possibilities for graduates

This Network was created in the spirit of becoming a permanent activity, thus it is not only an occasional working group studying the state of the art in education in Latin America, but a permanent link among professionals and educational institutions

The final results of this first step will be given in a final report to be launched at the FIG regional conference to be held in Latin America in 2005.

The first meeting of the Network was held last year in Córdoba (Argentina) under the presidency of the WG 2.2 Chair, Prof. Loyócano. During this meeting a work plan for the Network was endorsed together with countries and members which are responsible for each item; and a questionnaire was designed to be sent to the different associations and universities. Eight members of the Network attended this three-day meeting. The Federación Argentina de Agrimensores was represented by its President Engineer Norberto Fricks. The arrangements of the meeting and hospitality were excellent offering participants good working atmosphere.

The second meeting was held in Costa Rica hosted by the Colegio de Ingenieros Topógrafos 13–15 April this year. The meeting was attended by representatives from Argentina, Colombia, Costa Rica, Chile, Ecuador, Guatemala, Panama, as well as the Chair of Commission 2.

The opening session was chaired by the President of the Colegio Federado de Ingenieros y Arquitectos de Costa Rica, Civil Eng. Irene Campos. Colegio de Ingenieros Topógrafos is a chapter of the Colegio Federado. Eng. Juan M. Castro, The President of the Colegio de Ingenieros Topógrafos, Eng. Luis Ramírez, Executive Director, and Eng. Daniel Hernández, Coordinator of the CPD Programme, were attending this first session. Eng. Hernández as a full member of the Network attended also the whole three-day meeting.

2. Goals of the meeting

The main goals of the meeting were:

- To study and analyze documentation collected from universities and associations
- To learn the state of the art in education and the profession in each Latin American country
- To exchange experience from each country concerning strategies developed for defending our profession
- To try to prepare a scheme for minimum common curriculum for the continent
- To define the contents of the final report

3. Definition of the professional profile

Based on the professional reality of today and the foreseeable trends and needs in the future, in particular, and bearing in mind both pillars of our profession, following “*professional field of activity*” or “*professional profile*” were designed as a desirable, suitable and necessary goal for the near future:

Specific technologies	<ul style="list-style-type: none"> ▪ Project, execution and management of measurement processes, modelization, representation and visualization of physic characteristics in, over and under the terrestrial surface. ▪ Project, execution and management of information systems ▪ Project, execution and management in the handling and processing of images ▪ Project, execution and management of positioning, navigation and monitoring systems
Related technologies	<ul style="list-style-type: none"> ▪ Project, execution and management of processes and products for civil works and building ▪ Project, execution and management of processes and products applicable to environmental, agronomic, forestry, mining, industrial and hydrographic engineering ▪ Project, execution and management of processes and products applicable to the information society (telecommunications and informatics)
Land Administration, Rural and Urban Planning	<ol style="list-style-type: none"> 1. Project, execution and management of processes and products applicable to Cadastre, Land Registry, Land Administration, drainage, expertise and valuation 2. Project execution and management of processes and products applicable to rural and urban planning and development

4. Draft of curriculum

To fulfil the requirements of the professional profile, it was agreed that it would be of interest for the different governmental, academic and professional authorities to have a draft of a common core curriculum with subjects, which – as minimum - should appear in the different syllabuses.

The proposed syllabus was divided into four different categories of subjects:

- Basic subjects
- Basic subjects for Engineering and Surveying
- Specific subjects for Surveying and Agrimensura
- Complementary and Humanistic subjects

Basic Subjects	Basic subjects for Engineering and Surveying	Specific subjects for Surveying and Agrimensura	Complementary and Humanistic subjects
Mathematics Physics Computer Science and Telecommunications Chemistry	Sciences of Engineering Geosciences (Geology, Geotechnics, Geomorphology, Land use, Environment,...) Urban Engineering Engineering Projects Engineering Drawing	Geoposition (Mathematical Geodesy, Physical Geodesy, Spatial Geodesy, Geodetic Astronomy, Adjustment, GPS, GNSS,...) Surveying (Instruments, Methodology, Applied Surveying) Valuation Photogrammetry And Remote Sensing (Photogrammetry, Photointerpretation, Remote sensing) Law (Civil, Administrative, Environmental, Property, Rural, Urban and Professional Law) Rural, Urban Planning and Land Management GIS Cadastre, Land Administration, Mensura	Economy and Management History Geography Foreign Languages Expression and Communication Technics Special expertises

5. Final report

The Network defined and approved the contents of the final report to be published at the 4th FIG Regional Conference to be held in September/October 2005 in Latin America.

1. Introduction
2. State of the Art
 - a) Profession
 - b) Studies
3. Professional Profile for the 21st Century
4. Draft for a new common core curriculum
5. Comparative analysis
6. Conclusions
 - a) Similarities and dissimilarities between the new and the old curricula
 - b) Needs and lacks
 - c) Proposal of “harmonization”

6. Conclusions

- There is a deep conviction that today’s situation is undesirable for everybody, for professionals, associations and universities, especially when the globalization process brings so many problems but also opportunities.
- There is a strong wish for having curricular harmonization to some extent, which can facilitate mobility within the continent.
- There are big expectations that this Educational Network can seriously help different countries, universities, associations, professionals, professors and students in Latin America to a better understand and learn from each other; and, consequently, to facilitate access to graduate, Master, PhD and CPD courses within the continent with much less problems (economic, linguistic, idiosyncratic etc.) than when going outside Latin America.
- It is fully acknowledged that this Network shall become a permanent forum for all Latin American colleagues, where they are able to make contacts, exchange their experiences, discuss problems and their solutions, and reinforce the links among themselves and widen these experiences to sister associations and universities in the Caribbean, although not Spanish speaking countries, as well as to the North American countries, if needed and suitable.

Finally, it is import to notice that the O.N.U. approved to work in Mexico to establish an Institute of Land Organization. This Institute will cover Latin America and start its work this year.

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MA Luis Fernando Ramírez Arguedas
Secretary General of CFIA