

NEW DEVELOPMENTS IN THE TRAINING PROGRAMMES OF THE DEPARTMENT OF SURVEYING

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Abstract

The word 'SURVEYOR' which generally used for land and engineering surveying processes and experts is getting mean a wider, complex area. The Department of Surveying (TUB) has realized the new requirements considering real estate market and the new technical possibilities of GIS/LIS system and modified the curriculum of the study programmes. This short introduction reflects the aims and results of the developing teaching methods.

Keywords: real estate, cadastral, GIS/LIS systems.

1. The Challenge

Political and economical transformation started in 1990 put the real estate property into the focus of the interest of the society. The new national and international groups of owners, the management of the state owned companies and the local governments are facing with the problem of managing the real estate property in the market environment. The basic requirement to the efficient running of the real estate industry is to have a clear view and a correct list about the properties. The inventory of the whole real estate and land property which represents the definite part of the national economy is the Unified Land and Real Estate Registry.

- 1.1. The evolution of the real estate market raised expectations towards the system of the land registry and the staff involved.

The Department of Surveying realised early that only the change in attitude may help to deal with the expectations and criticism. The change in attitude can be promoted through training programmes.

The Department of Surveying trains civil engineering and architecture students, traditionally who will carry out engineering tasks in the property industry. There is no doubt that the modernization of the land registration and cadastral surveying can be promoted by training experts who will then put the knowledge into practice.

- 1.2. Changing of the real estate market indicated is not only change of ownership of the property. The big scale real estate developments exploded the frames of the regulations for the building industry which have been existing

for the late 30 years. A new law and then regulations were passed in 1997. /LXXVIII/1997/ [1]. The new law for builders is using the land registry and their cadastral mapping supplements as a base in the planning and concession phase of the work. This phase, influencing the first stage of real estate development, states that: “Plan regulating construction has to be presented in such scale in a map which contains horizontal and vertical data so that its statements can be interpreted to a single parcel, plot and public property unambiguously /1997. LXXVIII. article, chapter II. par. 4/.

As the result of the law, building permission is being connected to documents which needs land and real estate registry. The temporary and the permanent permission for building a house has to be supplemented by:

1. A copy of a map for land registry certified by the survey office.
2. A plan which contains the adjacent parcel and the construction area with all of the objects underground and above the ground, buildings and electric wires with their elevations.

The Department of Surveying is to teach designers and experts of the government offices to base their work on the upgraded land registry in the spirit of the law.

The Department reacted to these challenges when upgraded its undergraduate and postgraduate courses.

2. Real Estate Related Tasks in the Study Programmes

2.1. Undergraduate Programmes

The undergraduate course discusses two aspects of real estate as to define the dimensional statistics of the property and the fix them on a map with some explanation, secondly, the course introduces employing of the map and related records as a reference for the user. However, both the undergraduate and the graduate programmes involve producing maps. The students are trained in basic technology of GIS/LIS data logging, loading and operation. The Department of Surveying is training about 250 civil engineering students and 30–40 surveying students in this field whilst another 300 civil engineering students learn basic surveying principles in 120 hours annually.

The new training programme has been developed continuously since 1994.

Students graduating this year will be awarded by a degree in ‘surveying and land informatics’. The credit system has made shaping the module possible by connecting the subjects to each other. Specialization related closely to real estate is the major direction in *cadastral* surveying. Some courses, provided to the cadastral surveying students, may be chosen by the civil engineering students as electives. The main subjects of the major in cadastral surveying are land and real estate registration, valuation and mensuration. The other subjects related to the major ones

are photogrammetry, control networks, GPS measurements, underground surveying, observation adjustment and analysis, land leasing management, digital mapping and land information systems.

Within the GIS measurements, introducing the standards of the digital mapping for surveying (MSZ7772-1) in 1996 became a particular new chapter in the syllabus. The importance of the involvement of the new chapter in the study programme is the establishing of the National Cadastral Programme which was facilitated by the real estate industry last year. In connection with the law for the building industry mentioned in chapter 1.2, the standards of digital mapping assure the general use of 'land registration maps authorized by the Ordnance Survey Department'. The stress of the concept of real estate is to teach how to and provide providing surveying data and effective services to the client. Providing data and receiving data at the same time and the result of these parallel actions is the 'up to date' data basic. This is the point where the 'large scale surveying' subject is in connection with the demand for data from the property industry. The subject itself also covers the measurements and presentation of interior areas of buildings and monuments.

In Europe, property development and investment are focusing to issues of quality in the building industry.

The Department of Surveying is offering special an elective course on quality management, controlling, building construction and European standards within the subject 'Quality Management in Building Construction'. In liaison with property development, 'Building Construction Procedures' discusses the administrative and legal aspects of the property life cycle.

The Department offers valuation on the basic level. The course is very popular among the students, more and more students take it each year. The Department of Surveying is doing pioneering work by directing the civil engineering students' attention to this field, because most people working in real estate have economic degree. The Department is being supported by its international linkages in the launching of the 'Building Construction Procedures'. According to its experiences, graduates having traditionally good engineering degree and obtaining economic knowledge may get high position in the real estate companies. Students do valuations and present them at the assessment.

Students are prepared for assisting in legal processes in the 'legal framework' course. Curriculum is changing according to the challenge from the economy and the market.

Integration of the demands of the real estate market into the Department's teaching activities made the one of the oldest departments of the university the most developing unit of the institution.

2.2. The Postgraduate Programmes

³The postgraduate course is generally a five semester (4 semesters plus 1 semester for thesis work) programme. Students will be awarded with a second degree in

cadastral surveying. Training programmes offered by the Department of Surveying are:

- **Cadastral** The course objective is similar to the one provided for the full time course in cadastral surveying. The philosophy of the programme is to support the National Cadastral Programme, update the knowledge of the engineers who have graduated in the past ten years by providing them with new way of looking of the modern technology in surveying.
- **Land Information Systems** The course objective is to introduce an interdisciplinary course and to train experts of planning GIS/LIS systems. In addition, they will be able to load the system with data and run the softwares according to different needs of the users.
- **Msc in Real Estate** This course is intended to provide individuals with a broad blend of technical, legal, financial, economic, management, marketing and creative skills postgraduate level that are not currently offered in the country.

The course will regard to the immediate need for skilled professionals within the existing network of organisations currently operating in the country. The course provides western style expertise built up over many years in a mixed market economy, as applied to and respectful of the Hungarian context.

Individuals who will have pursued this course, will be able to positively contribute in fashioning the character of real estate property rights and their exchange. This is especially important in meeting the needs of growing industrial, commercial, leisure and agricultural enterprises, as well as assist in the development of a more sophisticated residential market.

The course philosophy is to provide students and staff with an exacting teaching and learning experience resulting in specific outcomes as well as developing a detailed knowledge and understanding of Real Estate, combined with the opportunity to specialise in a particular topic during the research and writing up of the thesis. This leads to improving the students' personal effectiveness and enhance their career prospects.

The course aims to enhance and develop the foundation of intellectual and vocational competencies owned by the students as a consequence of their first degree through their application in the context of real estate management, development and investment.

In doing so undergraduate and traditional preconceptions of the subject are challenged in an intellectually rigorous examination of advanced level study.

These aims are delivered through a range of teaching and learning methods, through applied research and through work-based and project-based experiential learning recognising the proven academic ability of the students at point of entry and through their postgraduate learning in the work place.

The knowledge and competencies gained in their undergraduate and previous postgraduate work are developed and challenged by a range of educational experiences and through this process students will both broaden and deepen their knowledge and abilities and be able to achieve and demonstrate identified course objectives.

The output of this process is assessed through the successful completion of a thesis and the state examinations prescribed under Hungarian Law. The students on the final year are therefore tested on output more than continuous assessment. This is seen as wholly consistent with the philosophy of the course and the challenge and academic rigour of the required output. The course was started in 1994, there are 20 graduated and more than 40 students on the nowadays first and second year.

3. Achievements

Efforts put into the training programmes will be accredited in some years. Despite, developments initiated in the middle of the 90's have resulted recognition in practice.

3.1. Recognition Abroad

'No one is a prophet in his own country' – as the phrase is saying, so the first sign of recognition came from abroad.

The joint award Msc in Real Estate has been accredited by the Royal Institution of Chartered Surveyors (RICS) in 1995. The accreditation is worth for both the students attending the course and for the Department participating in the training programme. The course is the only one in Central-Europe which has been accredited by the RICS. The continuing co-operation with the RICS through the RICS personnels is stimulating the teaching staff to continue and strengthen their efforts and to raise the standards of teaching.

3.2. Recognition in Hungary

As expected, recognition of the new developments in training took place in three phases.

In the *first* phase, both the full time and the postgraduate programmes were welcome by the students. After a few years experience it can be proved that in each course the new subjects attracted more and more students. But it is more important, that the student activity increased significantly. As the course requirements involve doing a project, final examination or thesis work, the presentations submitted promote research and development in real estate.

The *second* phase is under progress. Graduates finished the course transfer the knowledge they obtained to the practice of their profession, consequently, progress in the quality of the work will appear in the real estate market. The postgraduate training will enlarge understanding of those who are working in property industry and the effect of that can be measured in these days. The full recognition will be denoted by the fact that the fresh graduates will be able to communicate with each other in the same language in the real estate market. The most important goal for

the Department is to make the work in the Ordnance Survey Departments more effective.

The OSDS are ready to welcome the new workforce. This is shown in the interview given by the chief officer of the Ordnance Survey Department of Vas County when saying: ‘As we are working an office which serves the public, in the past few years, our primary goal is to update the *services* provided to our clients’. [2]

On the *third* level of the programme will be achieved when the real estate society is realizing that the real estate property as the most valuable part of the nation’s wealth can be accessed easily, and the data base and the inventory of the real estate property is up-to-date.

Summarizing the aims of this new educational activity, it will develop the following processes:

- The equipment and software recommended by the programme and built in into a GIS/LIS system will provide digital cadastral maps and registry data to a third party which may be governmental users, private real property enterprisers, utilities, attorneys, lenders and research institutions.
- The organized and fluently operating Land/Property Registry district offices will facilitate timely transaction document preparation, standardization of real property transaction documents, recording, closing escrow accounting and registration services in order to meet present demand and anticipated future growth in private market demand and volume.

Hungarian State Exams at the Department of Surveying (Final Subjects) Regular

Table 1. Degree ‘Surveying and Land Information’
Branch Cadastral (Valuation, Land Registry, Surveying)

Subjects	Time hrs.	Time hrs.	Points (Credits)	Assessment Mode
	lect.	pract.		
Digital Topography	2	2	5	E
Management	3	-	4	A
Legal Framework	2	-	2	A
Informatics	1	1	2	A
Large Scale Surveying	1	2	4	E
LIS Technology	2	1	2	E
Estate Re-allocation	2	1	3	A

Table 2. Schedule Cadastral Surveying Postgraduate Course

Subject	1. Sem.	2. Sem.	3. Sem.	4. Sem.	Time hrs.	Points (Cr.)	Assessm. Mode
Management			12	12	24	4 4	A E
Legal Framework	15	15			30	5 5	E E
Valuation, Prop.Development			12	15	27	4 5	E E
Mathematics	15 2	15			30	5 5	E E
Informatics	15	15			30	5 5	E E
Information Systems		15	15		30	5	E
Estate Re-allocation		15			15	5	E
National Cadastral Systems2	15				15	5	E
Land-Registry	15				15	5	E
LIS				15	15	5	E
Control Networks			12		12	4	A
Data Collection	15	15	15		45	5 5 5	E E E
Quality Management			12		12	4	A
Data Base			12		12	4	A
Land Information Software 1.				12	12	4	A
Land Information Software 2.				12	12	4	A
Operation Management				12	12	4	A
Computerized Graphics				12	12	4	A
<i>Total</i>					360		

Table 3. Schedule MSc. Real Estate Hungary Postgraduate Course

Semester One	Ref.	Time hrs.	Dir Learning	Tot. hrs.	Points (Credits)	Assessment Mode
Obrientation	1	50	90	140	10	A
Real Estate Registration	2	10	60	70	5	E
Real Estate Agency	3	10	60	70	5	E
Building Economics	4	10	60	70	5	E
Regional Urban Rural Economics	5	10	60	70	5	E
Design Structure 1	6	10	60	70	5	A
		95	390	490	35	
Semester Two	Ref.	Time hrs.	Dir Learning	Tot. hrs.	Points (Credits)	Assessment Mode
Project	7	40	100	140	10	A
Valuation I.	8	10	60	70	5	–
Property Management	9	10	60	70	5	–
Land Use Forecasting	10	10	60	70	5	SE
Design & Structure II	11	10	60	70	5	E
Legal Framework	12	10	60	70	5	E
		90	400	490	35	
Semester Three	Ref.	Time hrs.	Dir Learning	Tot. hrs.	Points (Credits)	Assessment Mode
Thesis Methodology	13	40	100	140	10	A
Planning Development	14	10	60	70	5	E
Valuation II	15	10	60	70	5	SE
		60	220	280	30	
Semester Four	Ref.	Time hrs.	Dir Learning	Tot. hrs.	Points (Credits)	Assessment Mode
Management	16	10	60	70	5	E
Investment	17	10	60	70	5	SE
Thesis	18	25	255	280	20	A
		45	375	420	30	
Totals		180	1385	1680	120	

- SE = Maximum 3 Hour State Examination (State Exams shown below)
- E = Examination (amx. 3 hrs.)
- A = Assignment Work (Work content may vary at discretion of Course team)
- Pass Mark 40% A & E

Credit Awarded on successful completion of the module.

Hungarian State Exams

1. Valuation I & Valuation II
2. Regional Urban & Rural Economics & Land Use Forecasting
3. Building Economics Property Management & Investment

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