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Universities in the Republic of Korea: Training the next generation of professionals

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To create a multidisciplinary programme, the committee and KSA networked with standards experts from various fields in the Republic of Korea, encouraging them to participate as lecturers and to develop a curriculum with textbooks and educational materials.

The government of the Republic of Korea financially supports UEPS under the “National Standards Master Plans.” With the involvement of universities, expert groups, and KSA, UEPS represents a valuable example of government and private sector cooperation.

Teaching methodology

UEPS is a regular one-semester class, accounting for two or three credits. The programme deals with general aspects of standards at business and at national and international levels, as well as with their increasing importance in the world economy.

As a result of intensified global competition, rapid technological innovation and the continuous creation of market demand in today’s world, the role of standards and our understanding of the concept have changed. The traditional advantages of standardization are shifting in line with emerging knowledge-based industries. Furthermore, knowledge of the value and impact of standardization should not be limited to technical engineering

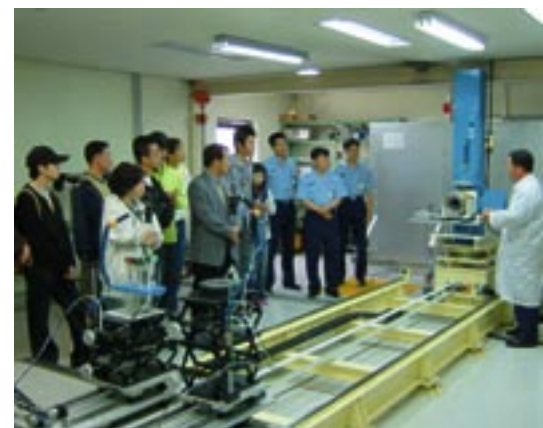
practitioners, but should also be available to typical university students, the next generation of professionals.

“Some universities want the programme to be compulsory for students majoring in engineering.”

In recognition of the increasingly important role of standardization, the government of the Republic of Korea established two “Five-year National Standards Master Plans” in 2001 and 2006 to develop an advanced standardization system. Nurturing standards experts is a major agenda item under these plans.

A multidisciplinary programme

The Korean Standards Association (KSA) is in charge of the overall operation of the University Education Programme on Standardization (UEPS), from its development to its implementation. For this purpose, KSA established the Standards Education Development Committee in 2004, composed of participating professors and lecturers.



Field trip to the 85th precision standard maintenance depot of ROK AF, May 2005.

Lectures are based on a single unified textbook and a team-teaching methodology, according to which a multiplicity of experts give lectures on their field of specialization. In addition, experts from business, testing laboratories, government departments, and standards developing organizations with diverse experience in standardization are invited as guest speakers. Furthermore, KSA provides a standards experts pool to universities, giving each university guidelines on the curriculum best suited to the needs of its students and education objectives.

About the author



Gye-Hyung Lee is the Chair and Chief Executive Officer of the Korean Standards Association. He has been an expert in the field of trade policy and WTO for more

than 28 years, and has worked for the Ministry of Commerce, Industry and Energy of the Republic of Korea. He leads the Standards Education Development Committee as Chair, and is in charge of the overall operation of UEPS.

Main Focus

In addition to academic work, students appreciate field trips to research centres and companies (**Photo on previous page**). They are enthusiastic to see for themselves how standards are actually used.

The universe of standardization in one textbook

UEPS is designed to expose students to various standardization topics, covering basic concepts to in-depth knowledge. KSA, in cooperation with the Standards Education Development Committee, has developed an overall curriculum structure for the programme, and started to define the contents at the kick-off meeting in March 2004.

A unified textbook entitled *Future Society and Standards* is distributed to enrolled students free of charge. The book, co-authored and revised by 29 experts in different fields, is composed of eight major chapters (**Cover photo above**).

Furthermore, educational materials (PowerPoint presentations) based on this textbook are available online free of charge to lecturers and universities, so that students can study the contents in advance or review them at a later date. Based on these materials, lecturers can create their own teaching tools and share them online. Universities already post examples of exercises for mid-term and final examinations on the "Examination Bank" section of the Web site.



Cover of *Future Society and Standards*.

PART 1 : Introduction to standardization

Ch1. Standardization overview

PART 2 : Standardization activities

Ch2. International standardization

Ch3. Standardization in Korea

Ch4. Company and standards

PART 3 : Standards

Ch5. Measurement standards

Ch6. Conformity assessment

PART 4 : Standards and their application

Ch7. Standards and IPR

Ch8. Standardization in future society

nology-based standards education at the graduate school level.

Future development

Sharing education materials online will contribute to the creation of Web-based e-learning. With the contents of the *Future Society and Standards* textbook, e-learning, combining video lectures and online classes, will be developed to enable standards education at any time, regardless of location.

Using UEPS as a base, cooperation and development methodology for standards education is currently being discussed with other countries. The Asia-Pacific Economic Cooperation Sub-Committee on Standards Conformance (APEC SCSC) standards education project gathers opinions from member countries and discusses cooperation methods focused on establishing an education model and developing its contents.

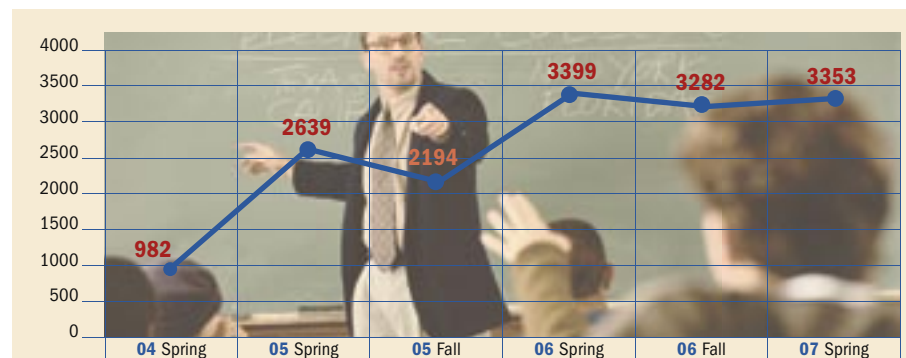


Figure 2 – Number of students enrolled in UEPS per semester.

Semester	04 Fall	05 Spring	05 Fall	06 Spring	06 Fall	07 Spring
No. of universities (classes)	11 (11)	29 (34)	27 (30)	39 (46)	38 (41)	38 (44)

Figure 1 – Number of participating universities in the Republic of Korea per semester.

Major achievements

Since UEPS was first introduced at 11 universities, the number of participating schools and students has been growing steadily (see **Figure 1**). Overall, around 16 000 undergraduate students have now begun to recognize the importance of standardization (**Figure 2**). Some participating universities are trying to adopt UEPS as an ABEEK (Accredita-

tion Board for Engineering Education of Korea) certified programme, and make it compulsory for students majoring in engineering.

UEPS has given students and professors an opportunity to renew their awareness of standards, and develop a common understanding on standards education. Consequently, it has been proposed that standards education be extended to students majoring in the social sciences such as management and law. There is also a need for tech-

In addition, a standards education system that can be shared internationally will be developed through a cooperative system with the International Committee for Education about Standardization (ICES). The Republic of Korea, China and Japan have agreed to cooperate on this area through the Northeast Standard Cooperation Forum (S-Dialogue).

The Republic of Korea will enhance positive awareness on the benefits of standards for the next generation through education on their importance and diversity. Based on its experience, the Republic of Korea hopes to explore ways to develop standards education, together with other countries and standards-related organizations, and establish consensus on this area.