
TRANSFER OF NUCLEAR ENGINEERING KNOWLEDGE AT HANOI UNIVERSITY OF TECHNOLOGY: LESSONS LEARNED AND CHALLENGES

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Hanoi University of Technology (HUT) has been being the most important polytechnic education centre of the country for half a century. Nuclear Engineering Education Programme (NEEP) was started at HUT since the year 1970, right after establishment of Department of Nuclear Engineering at the University according to the initiative of the first Minister of Ministry of Higher Education of the country. Since the year 2000 the Department changed its education programme to adapt it to the actual circumstances in the country and renamed as Department of Nuclear Engineering and Environmental Physics (DONEEP).

The objectives of the HUT's NEEP are as follows:

1. To train up nuclear technical manpower for development of peaceful uses of atomic energy in Vietnam.
2. To prepare initial nuclear technical human resources for introduction of Nuclear Power into the country.

Aiming at these objectives, the Programme achieved remarkable results such as inestimable contributions to introducing and then developing the NDT radiography method in Vietnam, to improving and developing the atomic energy applications in the country, to providing important parts of technical human resources for strengthening the nuclear community of the country.

The duration of 37 years of implementation of the Programme may be divided by 3 periods: from 1970 to 1989, 1990-2000 and from the year 2001 up to now. During the first period, the Programme was fully supported by the leadership of the University and the Ministry of Higher Education. The second period was full of difficulties. This was the period of searching the ways for preserving and adapting the Programme to the new circumstances in the country. The present period is the one of searching the ways for developing the NEEP at HUT.

The lessons learned from 37-year implementation of the HUT's NEEP are as follows:

1. To establish proper objectives aiming to satisfy the urgent short term and/or long term demands of the country is the most important guarantee for success of the Programme.
2. To find out close relation between the courses to be studied and the above-mentioned demands of the country is a very important guarantee for success of the Programme.
3. To train up teaching staffs of high consciousness of responsibility and of a quality as high as possible is a key guarantee for success of the Programme.
4. To adapt the Programme for providing student knowledge which should be of a) - Wide enough profile (for heightening capacities of seeking jobs of graduated students in today labor market in the country), and b) - High-

enough quality (for better integration and successful co-operation) is a necessary factor to attract students to the Programme.

5. To develop close contacts and cooperations with the related institutions in the country in order to make the Programme suitable and more attractive as well as to get a practical plan of using the young people trained-up by the Programme is another necessary factor for its success.
6. To establish and develop effective international co-operations is of extremely high importance in heightening level of teaching staffs and strengthening technical base for rapid and considerable improvement of the Programme quality.

In the present period, especially after the Vietnam Prime-Minister signed in the beginning of the year 2006 to approve the strategy for development of peaceful uses of atomic energy in the country up to the year 2020, HUT's DONEEP has to face a number of challenges on its way to contribute considerably to meeting new demands of the country. The big challenges may be listed as follows:

1. Lack of suitable NEEP;
2. Lack of sufficient knowledge on nuclear power engineering and nuclear power safety;
3. Lack of experienced educators for running the NEEP; and
4. Lack of sufficient incentive to involve and to keep people to work for the Programme.

For overcoming such serious challenges, the HUT is trying to make the following efforts:

1. Setting up a new NEEP in close co-operation with Vietnam Atomic Energy Commission and other related institutions;
2. Organizing an effective conglomeration for running the new Programme by involving related units of HUT and some other institutions;
3. Intensifying international co-operations and making them more effective;
4. Taking the possible measures in order to attract and stimulate young people to follow and to work for the Programme.