

# The Conception of Higher Education at Donetsk Technical University

Vadim PRISEDSKY

Donetsk National Technical University, [prisedsky@feht.dgtu.donetsk.ua](mailto:prisedsky@feht.dgtu.donetsk.ua), <http://donntu.edu.ua/>

**KEYWORDS:** *engineering education, conception, mission, policy, strategy of education.*

**ABSTRACT:** *Under the influence of the Bologna Declaration, engineering educators in Ukraine are now reconsidering on a new basis the aims and strategy of higher education. As an example of this may serve the recent development of a new university policy statement at Donetsk National Technical University (DonNTU). As a generalisation of many discussions at departments and divisions of the university the document titled "The Conception of Higher Education at Donetsk Technical University" has been issued. The strategy, main principles and priority directions of further development in teaching and have been formulated in this document.*

*Higher education is defined as the art and process of imparting knowledge, professional skills and values to a student to bring up a widely educated personality and specialist required for development of an individual as well as a society as a whole. This process is accomplished on the basis of unity of teaching process and scientific research.*

*The mission of the university is identified as to be a centre of excellence and innovation in engineering education and scientific research. Fundamental values and principles (academic freedom, equality of possibilities, scientific ethics, personal orientation of education, meeting the demands of different social, professional and ethnic groups, all-life learning, continuity and competitiveness of getting education, respect to other cultures, humanitarian values, sustainable development, integration into international educational space etc.) are declared.*

*The priority directions of university's development with specific indicator tasks for a few nearest years as well as two-decade perspective have been indicated. Accomplishment of this mission assigns the university the role of the centre of sustainable development in a country with transitional economy. The faculty believe principles and tasks formulated in new university's policy statement are an important resource for movement on the road of Bologna Declaration.*

## 1 INTRODUCTION

Realising very fast changes and developments in international higher education, many Ukrainian universities are now in the process of reconsidering and reformulating on a new basis the aims and strategy of engineering education. One of important landmarks in this process is the Bologna Declaration. As an example the relevant activities at Donetsk national technical university (DonNTU) may serve.

DonNTU is a leading higher education establishment in Donbass industrial region and one of the first higher technical schools in Ukraine. About 23 000 full-time and correspondence students are trained at the university on 60 specialities.

There are more than a dozen higher educational organisations in Donetsk, and the initiative to formulate the doctrine and policy of higher education was supported by the city administration. The work groups were established at several universities to organise discussions and surveys of the opinions among the faculty. Then those opinions were generalised and edited. (The author was responsible for editing the final document at DonSTU). As a result, at DonSTU the document entitled "The conception of higher education at Donetsk technical university" was issued. It is used as a university policy statement and also as long-termed general plan of action.

## 2 DEFINITION AND MISSION OF HIGHER ENGINEERING EDUCATION

Higher education is defined in this document as *the art and process of imparting knowledge, professional skills and values to a student to bring up a widely educated personality and also a specialist required for development of an individual as well as a society as a whole*. This process is accomplished on the basis of harmonic unity of teaching and scientific research.

Taking the aim of being a leader of higher engineering education in the Donets industrial region and Ukraine, DonSTU determines its mission as *to be a centre of excellence and innovations in engineering education, scientific research, quality of training students for future professional activities and life as a whole*. Training at our university is aimed to give students ability to propose, grasp and implement technical, commercial, social and managerial ideas, to adapt themselves to quickly changing situations at work and in life. A DonSTU graduate should be competitive at national and international level. What engineering educators can and should do is to put into heads of their students, those who will perform engineering tasks in the near future, the ideology, principles, the way of thinking of harmonically developed personality in a new society. Persistent implementation of this mission gives the university the role of the centre of sustainable development in a country with transitional economy.

### **3 FUNDAMENTAL PRINCIPLES AND VALUES**

According to the university mission the strategic aim of DonSTU is defined as bringing up a developed personality, education and training of a professional engineer of a new type, able to solve long-term and everyday tasks of creating new material and spiritual values, contributing to economic development of society.

In achieving this aim, important role belongs to the fundamental principles and values put in the basis of all university's life. These were framed in the following way:

- Academic freedom and autonomy of the university (a very important issue for a university in a country of the former Soviet Union);
- The basic principles of scientific ethic in organising and conducting research, use of obtained results, dissemination of scientific knowledge;
- A personal orientation of education, meeting the demands in education from different social, professional and ethnic groups of population;
- Accessibility of education on a just competitive basis for each Ukrainian or a foreign citizen with a necessary potential; sequential principle in obtaining higher education;
- Development of dedication to and skills for a life-long education;
- Development of national and all-human values; respect and tolerance to other cultures and their bearers;
- The principles of stable development and environment protection;
- Integration into European and world educational areas; gradual setting the education practice in accordance with the Bologna process;
- Openness of action.

After formulating basic principles and values, attention was paid to construction of general plan of further actions. Concern for economical and educational globalisation, the Bologna Declaration's aim at creating convergence of European higher educational systems constituted a natural background in this process.

### **4 PRIORITY DIRECTIONS OF FURTHER DEVELOPMENT**

Taking into account the strategic aim, the long-term action programme has been worked out. In the programme the following priority directions of the future university development were formulated:

- Continual innovative development of teaching process, introduction of personally oriented study methods;
- Wide implementation of contemporary information technologies of education; development of educational content of local computer nets;
- Switching to the world educational nets, providing to all teachers and students practically unlimited access to Internet
- Development of the system of life-long education, second and vocational education, after-diploma learning;
- Implementation and development of the system of distant learning based on up-to-date information and communication technologies;

- Individualised preparation of scientific and engineering elite alongside with multistage system of education of wide masses of ukrainian and foreign citizen;
- Development of scientific research on national and international level, synthesis of teaching process and scientific research;
- Internalisation of higher education, integration to European and world education systems; restructuring of education process in accordance with the Bologna process;
- Further development of foreign technical departments practicing teaching in foreign languages, active implementation of the system of language education directed to practical knowledge of at least one foreign language; support of joint laboratories and scientific centres with foreign engineering firms;
- Creation of contemporary market of various educational and scientific services;
- Development of modern material base of the university.

Much attention was paid to forecast of future demands for specialists in economy at local and all-Ukrainian level. The tendency for increasing demands for specialists in new high and information technologies should have been taken into account. The forecast was made on the base of Regional Programme of Scientific and Technical Development, that was prepared earlier by DonSTU academics. To assure the employability of future graduates, an increase of specialists prepared in information technologies, industrial management and economy was planned alongside with reduction of planned graduates in such traditional industrial fields as metallurgy and mining.

In fact, many of recent developments in the university's life were in accordance with main demands of the Bologna Declaration – reform of higher education system in order to create overall convergence at European level. Among such developments is the introduction of undergraduate and postgraduate levels with first degree of bachelor after four years of training, engineer – after five, and master after five and a half years of study. At present, the Diploma Supplements are implemented in modernised form. ECTS-compatible credit system is in the process of experimental adoption.

All this show the importance of Bologna process in everyday life of a Ukrainian technical university.