

The "6-E conception" – **the new standard of modern engineering education**

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Non scholae, sed vitae discimus (Seneca)

Mankind in the 21st century may be proud of its scientist and technological attainments. However, technical developments have resulted in environment pollution, social problems, and an unbalance in economic developments of many states and regions. Solving these problems is impossible without combined efforts. A plea is made for educating modern engineers based on the “6E conception”, i.e.

EDUCATION > ERGONOMICS + ETHICS + ECONOMICS + ENERGY – SAVINGS + ECOLOGY

The ergonomics principles should be obligatory for designer projects; the ethics is necessary for modern and future scientist and engineers; the knowledge of economics laws is very important too. Formation world view and common approach to the decision any scientific and technical problem must be based on the “6-E conception”, it will lead to the creation of new engineers, whose work and projects will contribute to energy-saving technologies and improvement of the ecology of our planet. This article is devoted to the possibility of the introduction the “6-E conception” to technical education with the help of the modern information technologies.

The present stage of the development of science and technology and constantly increasing negative influence of technology on the environment requires a reevaluation of the interaction between engineer and environment. Certainly, Figure 1 reflects incompletely the multiformity of the interaction between engineering activity and environment. However, it is obvious that the role of the engineer, his ability to formulate correctly and to solve safety the engineering problems, and his ability to understand professional and ethical responsibilities are very important (Herkert, 2000).

Achievement of high quality of products from the point of view of safety, usability, aesthetics requires new approaches to the designing process. Together with the design of the product it is necessary to include the whole product life cycle. It allows to design the model including all the possible consequences of creation, use and utilisation of the product (Boyko, 1999), (Khalid and Halimahun, 2000). To attain such a level of quality of design of the product, the corresponding training of