

## Summary

### AXIOLOGY OF ENGINEERING, OR WHY WE HAVE THE CRISIS OF ENGINEER EDUCATION.

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The paper is devoted to finding out the causes of the crisis in engineer's education. According to the authors opinion these causes are of the «world-system» character and are determined by the being essence of the moral human autonomy. The authors see overcoming in the modeling of praxis of social justice in the education process. We have specially noted the meaning of creating an interdisciplinary modul, the main goal of which is humanitarization of engineer's education.

### NEGATIVE INFLUENCE OF THE FORMALISM OF KNOWLEDGE OF STUDENTS AT FORMATION OF ENGINEERING THINKING

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In article signs which should possess modern successful the engineer are considered. Problems of formation of engineering thinking of students are allocated, the reasons of occurrence of a formalism of knowledge of students are established, the basic ways of integration fundamental and professional knowledge for the purpose of overcoming of a formalism of knowledge and a problem of its formation are considered.

### A LEARNING ORGANIZATION THEORY BASED VIEW AT THE TRANSITION OF THE RUSSIAN ENGINEERING UNIVERSITIES TO THE «BACHELOR- MASTER» SYSTEM OF EDUCATION

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Transition of the Russian engineering universities to the «Bachelor- Master» system of education is analyzed in this paper. Specific approach based on the learning organization theory was used for the analysis. It is shown that many challenges arising by this transition are caused by singularity of new system for employers and by their reluctance to change existing opinion regarding quality of the university graduates rather than by changing the real quality of the engineering education. Some ways for coping with those challenges are proposed.

### FORMATION OF INNOVATIVE INFORMATION - EDUCATIONAL ENVIRONMENT FOR STUDYING TECHNICAL SUBJECTS

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The article deals with creating and implementing the educational process of higher education institution of information - an educational environment that would use not only of modern information technology such as electronic textbooks, educational portals, but also innovative methods of distance education, organizational - methodical means of a set of technical and software for storing, processing, transmission of information, providing quick access to educationally relevant information and create an opportunity for communication of students and teachers.

### THE TOOL FOR ASSESSMENT AND SELF-ASSESSMENT OF UNIVERSITY TEACHERS ON THE BASE OF COMPETENCY MODEL

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Using the competency model as an alternative way of assessment and self-assessment of university teachers is suggested. The methodology of model's construction is given and the problems of the model's development and using are indicated. Example of self-assessment and competency-profile construction is presented.

### ENGINEERING ECONOMY - A WAY TO BUSINESS DEVELOPMENT IN ENGINEERING

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In article approaches to business development in engineering on the basis of high technologies are described. Necessity of formation engineering-economic centers as subjects of modernization of engineering education and gradual transition to innovative business are described. Methods of technological marketing as toolkit to formation of market approaches in engineering and to perfection of a regional innovative policy are described.

### SPECIALIZING QUALITY MANAGE- MENT EDUCATIONAL PROGRAMS DEVELOPMENT FOR HIGH TECHNOLO- GY INDUSTRIES

*M.V. Akulenok, N.M. Larionov*

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Some problems of training for science-intensive industries due to the introduction of the federal state educational standards. Justifies the need to prepare variability within one profile to take into account regional and professional characteristics of staff in the field of quality.

### IMPROVEMENT OF EDUCATION QUALITY MODELS ON THE BASIS OF INDEPENDENT PUBLIC AND PROFES- SIONAL EXPERTISE

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Improvement and dissemination of education quality models is more appropriate on the basis of independent public and professional expertise development in educational field.

### THE ACCREDITATION CENTRE OF THE ASSOCIATION FOR ENGINEER- ING EDUCATION OF RUSSIA EXPERTS' COMPETENCES MODEL

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*Siberian Transport University*

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*Tomsk Polytechnic University*

Indicators and characteristics of the AEER AC experts' competences were regarded in the article.

### THE COMPETENCES OF BACHELORS AND MASTERS WITH THE REQUIRE- MENTS OF PROFESSIONAL STANDARDS

*O.A. Gorlenko, V.V. Miroshnikov*

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In article are considered questions of development of scientific-methodical provision of the approval processes competences of bachelors and masters with the requirements of possible forms of their professional activity.

### MODERNIZATION OF EDUCATIONAL COMPLEX «ELECTRICAL CIRCUITS» AT NRNU MEPhI

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A new situation has emerged in electrical engineering that is related to modern informational technology applications. In turn, the necessity of changing the «Electrical Circuits» discipline arose. A modernization paradigm was suggested. The forms and techniques of operation in new conditions were determined. The technical base, which included informational technologies, was developed and the fulfillment of the educational space was started.

**FORMATION SCIENTIFIC AND PEDAGOGICAL MAGISTER'S COMPETENSE DIRECTIONS «DESIGNING AND TECHNOLOGY OF ELECTRONIC MEANS»**

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Formation scientific and pedagogical magister's competence in the field of designing and technology of electronic means is considered. One of variants of the effective organisation of pedagogical preparation magister's technical college to performance of its professional-pedagogical functions is offered.

**EDUCOLOGY OF ENGINEERING EDUCATION: BASICS POSTULATES OF SYSTEMS ENGINEERING**

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The Newness of situation with world system of Engineering Education (EE) in the beginning of XXI century is determined by legislative introducing in practice of international standards EE. These standards have to be universal tools for intensification of attack on well – known phenomena – Educational Gap. In order to get successfully the goals of modernization EE there is a need to accomplish international standards EE by general theory – educology EE. Basic postulates of Educology EE are introduced in following article.

**SHERLOCK HOMES AND THIRD GENERATION EDUCATIONAL STANDARDS**

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In order to provide training of modern engineers with sufficient economical and cultural competences according to state standards of the third generation without changing the structure and content of the study plans is quite problematic. The development of the competence-based model of a graduate which will serve as a basis for block-module study plan for the purposeful competences formation is one of the solutions.

**THE FIRST ELECTROTECHNICAL INSTITUTE ON THE EVE OF ITS 125 ANNIVERSARY**

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The paper presents the history of foundation and development of St. Petersburg State Electrotechnical University "LETI", the oldest in Europe school of higher learning in the field of Electrical Engineering and one of the leading technical universities in the country which celebrates its 125th anniversary this year. The role of outstanding academicians and researchers who worked or are working now for the University in developing new scientific areas and achieving the world and national priority is shown.