MIKHAIL VLADIMIROVICH
Student, Faculty of Chemical Technology, Volgograd State Technical University
E-mail: makentosh117@gmail.com

TRETYAKOV SERGEY IVANOVICH
PhD (Engineering Sciences), Professor, Head of Department of Standardisation, Metrology and Certification, Northern (Arctic) Federal University n.a. M.V. Lomonosov (NArFU)

KHOROSHAVIN LEV BORISOVICH
DSc. (Engineering Sciences), leading researcher, Ural branch of the Academy of Technological Sciences
E-mail: Tsiganova_32@olympus.ru

ШАНДЫБИНА ИРИНА МИХАЙЛОВНА
доцент кафедры «Детали машин и ПТУ» Волгоградского государственного технического университета
E-mail: ISHANDYBINA@yandex.ru

Summary

INNOVATION APPROACHES TO DEVELOPMENT OF EDUCATIONAL PROGRAMMES IN THE FIELD OF ENGINEERING

S.I. Koryagin, K.L. Polupan
Immanuel Kant Baltic Federal University

The article is devoted to the main conditions of effective development and design of educational programmes in the field of engineering.

CONTEMPORARY DISCUSSIONS ON THE CONCEPT OF ELITE ENGINEERING EDUCATION

N.I. Sidnyaev
Bauman Moscow Higher Technical School

Article is devoted to modernization of domestic system of engineering education. According to the innovative development in higher technical education there exist contradictory problems which have been studied. The role of technical universities in preparation of professional elite – scientifically-engineering and state-administrative is considered. Analysis of transformation processes in a domestic education system is presented. Considerable attention is paid to the methods of shaping a modern engineering outlook.

MODEL OF STUDENTS' PRACTICAL TRAINING PROCESSES IN INSTITUTIONS OF HIGHER PROFESSIONAL EDUCATION

M.A. Tarasova
State University – Education-Science-Production Complex, Orel

The article deals with the model of students' practical training processes, its unit-by-unit description of processes and relationship between them. It forms the basis for subsequent development of a monitoring model.

MULTIMEDIA LECTURES ON DISCIPLINE "MACHINES PARTS"

M.M. Matlin, I.M. Shandybina, M.V. Topilin, A.N. Goncharenko
Volgograd State Technical University

The method of development and implementation of the multimedia lecture course on discipline "Machine Parts" into the learning process is considered in the article.

SCIENTIFIC KNOWLEDGE CONCEPT:- CASE STUDY TECHNOLOGY AND ITS PRACTICAL-ORIENTED APPLICATION

M.N. Prosekova
Tyumen State Oil and Gas University

Shaping the competences of a Master-student within the framework of Federal Education Code new generation of Higher Professional Education is implemented through an innovative methodology, i.e. case study (portfolio). This methodology is coupled with such aspects as self-control, cooperativeness and, especially, teamwork. This article is a continuation of previously published papers [3, 4, 5].

COMPETENCY-BASED APPROACH TO DEVELOPING EDUCATIONAL STANDARD FOR MASTER'SPROGRAM "STANDARDIZATIN AND METROLOGY" AT NORTHERN (ARCTIC) FEDERAL UNIVERSITY N.A. M.V. LOMONOSOV (NArFU)

T.M. Vladimirova, S.I. Tretyakov
Northern (Arctic) Federal University named by M.V. Lomonosov (NArFU)

The article presents the experience in developing educational standard for master's programs in standardization, metrology, and certification. Being developed in line with international practice, the standard extends the scope of professional activities, supplements cultural and professional competences with regard to ecological, economic and ethnic peculiarities of the Russian Arctic zone.

ENGINEERING EDUCATION
17'2015

CURRICULUM DESIGN IN ENGINEERING EDUCATION AND THE ROLE OF PARTNERSHIPS

I. Shimi
Private Engineering School of Technology, Tunisia

Engineering schools have to be aware of three important levels of profile analyzing to guarantee the employability of their graduates: The local market needs in skills, the companies needs in human resources technically, the international openness and importance of partnerships and patronage activities. At Esprit, these three points are considered as key-metrics to design the curriculum in engineering education.

SHAPING THE PROFESSIONAL COMPETENCES OF UNDERGRADUATESIN ENGINEERING UNIVERSITIES, ILLUSTRATED BY THE INVESTIGATION OF GAS-TURBINE SURFACE AND BLADE VIA ITS AXONOMETRIC DRAFTING

G.A. Pugin, A.B. Mineev
Bauman Moscow State Technical University named after N.E. Bauman

The article describes a course example "Research-Graphic Practicum" oriented at reinforcing previous knowledge and skills in "Engineering Graphics" and further development of professional competences of undergraduates based on the illustrated investigation of the gas-turbine blade. The authors formulated assignments in designing a theoretical model and executed an axonometric draft of the gas-turbine vane.

METHODOLOGY OF ENGINEERING AND TECHNICAL ACTIVITY ANALYSES FOR DEVELOPMENT OF ACADEMIC CONTENT STANDARDS

G.V. Bukalova
State University – Education-Science-Production Complex

The author addresses the issue of methodology used within the institution to modify the learning outcomes of technical education. The paper represents the methodology for manufacturing process analysis conducted to develop academic content standards for engineering education of automotive profile. The content of structural elements in the analysis of manufacturing process has been substantiated. The methodology for representing production activity parameters in the form of education standards (competences) has been suggested.

CREATIVITY COMPONENTS IN ENGINEERING EDUCATION

V.A. Mikhailov, A.L. Mikhailov, V.P. Zheltov
Chuvash State University

The article describes the conflicts in the development of engineering education, their algorithm definitions which would be eligible for engineers, researchers, instructors, and students. This, in its turn, is the result of long-term experience in the development and application of about 20 algorithms based on TIPS (Theory of Inventive Problem Solving).

PECULIARITIES IN SHAPING STAFF PROFESSIONAL SKILLS IN FISHERY INDUSTRY ("PRODUCTION MACHINES AND FACILITIES" EDUCATION PROGRAM)

I.N. Kim
Far Eastern State Technical Fishery University

In leading countries, fishery industry is characterized by high scientific and innovation potential, which makes it one of the leaders at international consumer market. The Russian fishery industry is significantly lagging behind not only other countries in terms of hydrobionts' processing technology, but also Russian pharmaceutical companies and biotech firms.
One of the reasons why Russian fishery industry is lagging behind is low professional level of engineering staff involved in this production. To remedy the situation, it is required to revise engineering training transferring it from qualification-oriented approach to competence-based one, with a graduate acquiring not only professional competences but also skills in innovative ventures.

ON THE KEY PROBLEM OF ENGINEERING EDUCATION IN MACHINE-TOOL INDUSTRY

K.A. Kapitonova
Rybinsk State Aviation Technological University

The article considers the necessity and opportunity to develop a system mechanism model as an academic process reorganization basis for engineer training in the machine-tool industry.

THE IMPERATIVE OF ENGINEERING STAFF'S INTELLECTUALIZATION AND COMMON CULTURE ENHANCEMENT

V.V. Likholetov
South Ural State University (National Research University)

The causes for stifling innovation in the country, reduction of the engineers' overall culture and quality of their training have been analyzed. The ways of the future engineer's personality development on the basis of domestic experience and modern TIPS tools are considered.

ENVIRONMENTAL TRAINING AND EDUCATION

L.B. Khoroshavin
Ural branch of the Academy of Technological Sciences – Ural Division of the ATN
T.A. Badyina
Ural State Mining University

Article highlights issues of environmental training in secondary and higher education. Authors suggest universal formula of progressive education, which is targeted at unity and progressive development of Russia by means of environmental training. Current article is of conceptual kind and comprises different areas of environment.

LEARNING FACTORIES: THE WAY TO CREATE WORLD CLASS GRADUATES THROUGH ENGINEERING EDUCATION

Z.C. Chagra, I. Shimi
The Private High School of Engineering and Technologies, Tunisia

The learning factory can be defined as a type of university – factory (or professional institution or company) that aims to produce better generations of students and make them more ready to market. This paper describes a model of learning factory made at Esprit School of Engineering, Tunis, Tunisia. This paper shows also the specifications of this experience as it is held at in an institution already facing major changes in its curriculum due to following active learning educational approach.