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Theoretical description of subjects that form professional competences of general engineering students

Rakhimov Sarvar IbrahimovichP
Teacher of Urganch State University

Annotation. The article examines the problems of formation of general professional competence based on the block of specialized subjects, interdisciplinary and subject approach in teaching students of a higher educational institution.

Key words. Competence, profession, student, disciplines, innovation, basic competence, interdisciplinary competence, expertise.

Determining the priorities of the systematic reform of education in our country, bringing the spiritual, moral and intellectual development of the young generation to a new level in terms of quality, and introducing innovative forms and methods of education into the educational process. , as well as special attention is being paid to creating the necessary conditions for them to thoroughly master the secrets of science.

Based on the requirements of the current era, the formation of universal (universal) competencies of students in the higher education system is one of the priority tasks, and through universal competence, it is a necessary competence for every person to achieve personal development and self-expression, to succeed [1].

It is explained that competence is the student's acquisition of knowledge, skills and abilities necessary for the implementation of personal and socially significant professional activities and their ability to apply them in professional activities. In this place, the essence of the concept of "competence" is fully revealed, which is manifested in the following two forms: Competence as a set of personal qualities of students and basic requirements of the professional field [2].

Due to the fact that the educational content is grouped in the form of blocks of subjects in the curriculum (for all subjects), interdisciplinary (for a set of subjects) and subjects (for a specific subject), we recognize the following three levels of competence .

- basic competence (according to humanitarian, socio-economic content of education);
- interdisciplinary competence (according to the specific framework of educational subjects and educational blocks of general professional training);
- Competence in one subject (subject) (according to having a clear and certain opportunity within a special academic subject).

Special professional subjects form the main content of engineering knowledge and it is through them that students are formed the competencies that determine the ability to perform appropriate and necessary innovative engineering professional activities.

In particular, "Diagnostics of motor vehicles" as an educational subject is considered to be one of the main problems of optimizing the technical operation of motor vehicles and ensuring their

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reliability and technical readiness at the present time of the industry, and studies their optimization [3].

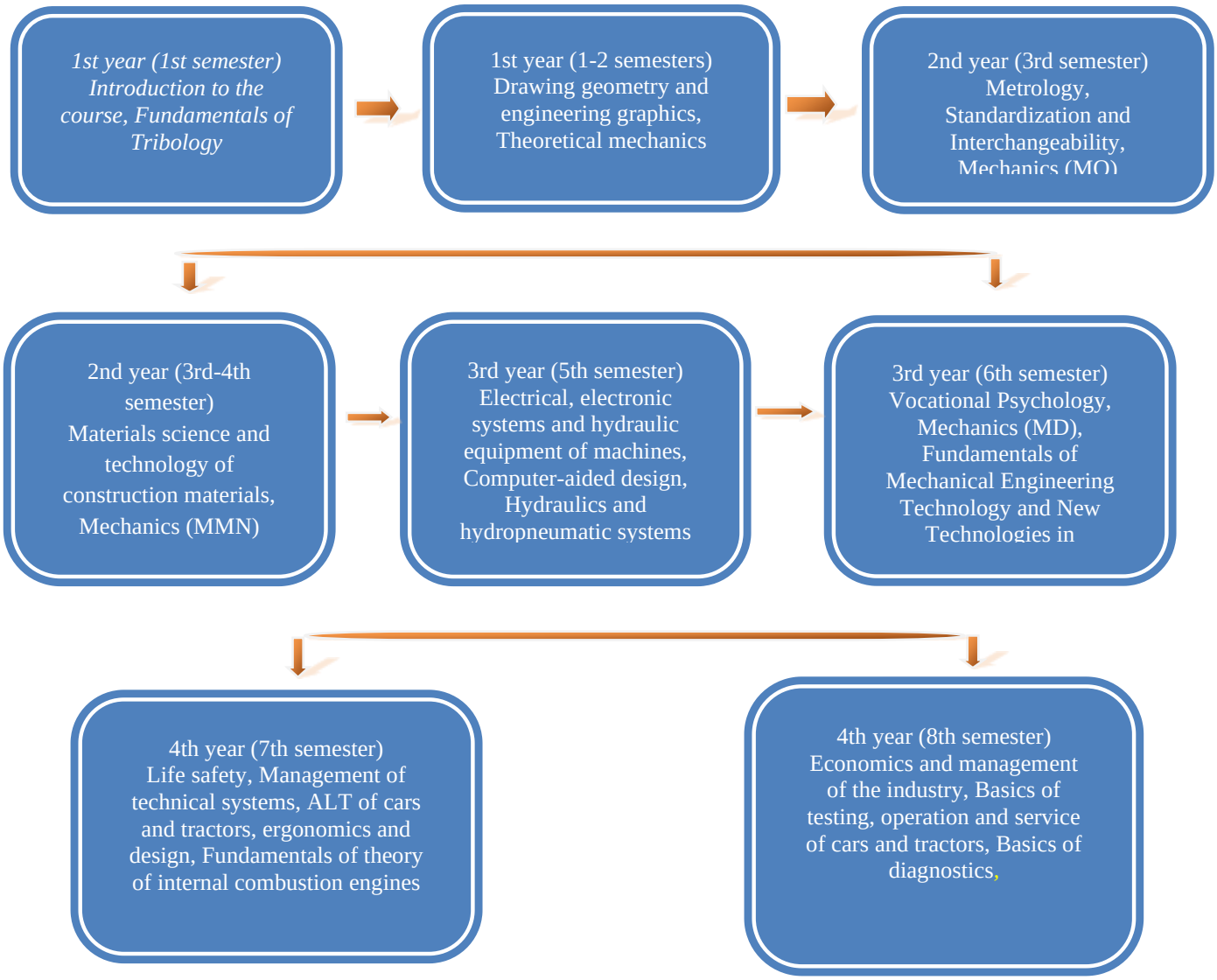

Figure 1.1. The sequence of teaching general professional subjects to the students of "Transport engineering".

Figure 1.1. The sequence of teaching general professional subjects in the direction of "Transportation Engineering" is presented for each course with the subjects taught in a separate semester. Here, by studying natural-scientific, specialized, additional and elective subjects, the future engineer-mechanics will be gradually absorbed in the content of the educational process, with the help of making them interested in general professional subjects, explaining them and creating practical

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skills. will go In this place, students' professional competence is formed and developed by forming professional qualities first, and then by forming engineering competencies. General professional sciences act as a kind of bridge between natural-scientific and specialized sciences.

In our research work, we conducted research on the ways of forming and developing students' abilities for innovative engineering professional activities through the above general professional subjects. Below we present the classification of the development of innovative engineering professional activity in students by studying these subjects.

"Diagnostics of motor vehicles" is a specialized science in which the future engineer uses modern devices to check and diagnose the resources of machine details and mechanisms, the causes, types and locations of malfunctions, through a systematic analysis of existing malfunctions and their causes. mechanics can approach the profession as an innovative engineer. It depends not only on the teaching style or on relying on the pedagogical technology used to explain the subject to the students, but also on the student's conscious and rational approach to the problem.

Relying on the acquired knowledge from the subjects of the block of mathematical and natural scientific sciences, the science "Diagnostics of motor vehicles" itself is considered to be a provider of fundamental knowledge for special sciences. Its content consists of:

- proofs, concepts, quantities, fundamental laws, scientific-theoretical laws;
- the ability to work with parts common in mechanical engineering, places of use, advantages and disadvantages;
- strength, hardness of materials and cases of failure in their operation;
- structural specificity of details and their change under the influence of various loadings in operating conditions;
- ensuring safe use of structural elements from the effects of external environmental changes;
- technical service in order to improve the operational characteristics of the details used in vehicles;
- synthesis of new machine details and mechanisms that provide solutions to scientific and technical tasks;
- specific rules and ways of thinking and practical activities;
- practical use of knowledge and skills aimed at solving the problems of innovative engineering professional activity;

Based on these instructions, the student's positive potential should meet the requirements of modern innovative engineering education. On the other hand, the first task of the science "Diagnostics of motor vehicles" is to provide specific knowledge, and it is necessary to form the ability of students for innovative engineering professional activity based on appropriate competencies.

It should be noted that interdisciplinarity is manifested not only in subjects in subject blocks, but also between subjects in one block.

It is possible to determine the place, importance and influence of each of the general professional subjects in the educational process. In particular, general professional sciences are consumers of knowledge provided by mathematics and natural sciences, while special sciences are consumers of knowledge provided by general professional sciences.

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In the development of the minimum requirements in the basic educational program of bachelor's training, the competences that form the abilities for innovative engineering professional activity are researched. The stages of their formation and development were considered taking into account the types of training, i.e. lecture, experimental work, practical training and course project. It is difficult to assess the position of the above-mentioned disciplines, therefore, we will carry out an analytical approach to each of them in accordance with the research tasks.

In particular, the science "Diagnostics of motor vehicles" in its current form is a complex science, which includes the design, production and operation of motor vehicles, ensuring the ability to work in severe conditions and emergency situations, diagnosing the technical condition, forecasting (predicting) and finding the most optimal (reasonable) construction solutions, based on the mechanical and mathematical preparation of students, the requirements of the Davlar Educational Standard (DTS) set the tasks for them to have the following.

- ❖ formation of fundamental knowledge and practical skills necessary for the study of specialized subjects and deep acquisition of theoretical knowledge;
- ❖ preparing to use knowledge of modern problems of science and education in solving general professional tasks;
- ❖ study the optimal resources of machine details, mechanisms and transmissions according to the conditions given to students;
- ❖ on the basis of the national program of personnel training, it is necessary to train students to organize moral and moral education and education effectively;

Thus, the content of the science shows an invariant component, it reflects the theoretical base, laws, scientific and technical theories, and a variable component [3]. The variable component can change to several views, depending on the view of the product of the engineering course for different educational institutions of professional higher education. "Automotive diagnostics" as a specialty is of great importance in the formation of professional qualities in engineering activities, and it is based on this specialty that the students of the educational direction of transportation engineering have a special place in the development of multidisciplinary inter-system thinking skills in their future professional activities. The importance of the science "Diagnostics of motor vehicles" is incomparable in the thorough acquisition of general professional knowledge in the teaching of special subjects brought for the purpose of preparation according to the paradigms introduced by the science and production enterprises.

In general, the science "Diagnostics of motor vehicles" has entered the professional sciences, studying the laws of change of the quality indicators of technical devices and systems in the conditions of an innovative enterprise, diagnosing the technical condition and, on this basis, methods of increasing their service life without damage with the least expenses. is a logically completed training course that provides learning opportunities. Through this, students develop professional skills at the level of identifying malfunctions and disturbances in the operation of any detail or real mechanical system aggregates. The subject "Diagnostics of motor vehicles" is a unique combination of education in the preparation of future specialists for the innovative engineering profession.

In preparing students for innovative engineering professional activity, the description of general professional subjects that serve to develop their professional competences by teaching general professional subjects was given. In particular, it can be said that the science "Diagnostics of motor

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vehicles" is a logically completed science, which includes important aspects that develop students' abilities for innovative engineering professional activities, and provides an opportunity to solve professional problems.

References.

1. М.С.Добряковой, И.Д.Фрумина. Универсальные компетентности и новая грамотность от лозунгов к реальности. Издательский дом Высшей школы экономики, Москва, 2020
1. 2.Muslimov N.A. va b. Kasb ta'limi o'qituvchilarining kasbiy kompetentligini shakllantirish texnologiyasi. T., "Fan va texnologiya" 2013 yil 128-bet.
2. Xudaykulov R. Z. Talabalarda innovatsion muhandislik kasbiy faoliyatiga oid kompetensiyalarni shakillantiruvchi fanlar nazariy tavsifi. Urganch. Ilm sarchashmalari 98 bet.
3. Nazarov A. A., Irgashev D, Berdiyev Sh. "Kasb-hunar kollejlarida mutaxasislik fanlarini o'qitishda zamonaviy axborot texnologiyalaridan foydalanish."Muqobil energiya manbalaridan foydalanishning dolzarb muammolari" mavzusidagi respublika ilmiy-texnikaviy anjuman, Qarshi, 2013 yil. 440-441-betlar.
4. Aralov M. M.Muhandislik yo'nalishi talabalariga chizmachilik va kartografiya fanlarini o'qitishda interfaol metodlardan foydalanishning uslubiy jihatlari. "Mug'allim hem uzluksiz bilimlendirio" Nukus 2022-2 son.