

## EDUCATIONAL COMPETITIONS AS A COMPONENT OF TEACHING METHODS FOR TECHNICAL DISCIPLINES

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Educational competitions in technical disciplines for children are active means of influencing the development of gifted children. They not only support, but also develop an interest in knowledge; stimulate activity, initiative, independence of children; allow the child to test their knowledge, skills and abilities; teach cooperation with others. Gifted young people of Ukraine have the opportunity to take part in all-Ukrainian and international competitions in different fields. From the beginning of 2018, talented young Ukrainians have been participating in the competitions of different technical fields.

Each competition has a specific purpose, which determines its orientation. The goal also refers to the teaching and educational aspects. The competition may be scientific, scientific and commercial, commercial or scientific and practical in character, which determines the availability, size, order of provision and conditions for obtaining material incentives for winners and special prize-winners of the competition. Restrictions determine the requirements for the competitors to participate at the face-to-face stage of a competition. Competition specific features reflect the requirements for the practical realization of the purpose of the competition. In the description of the terms and conditions of a competition, the approximate time frame is required for the training of a prize-winner, which may, if necessary, be enlarged or shortened in accordance with personal qualities of a participant.

A brief description of competitions

Paper defense competition among the students-members of Minor Academy of Sciences of Ukraine. Orientation: broadening the content of school education, independent research or research and applied activities of pupils. The nature of the competition: scientific. Restrictions: pupils of the 7-11 forms. Specific feature: strict requirements for works execution.

Intel Techno Ukraine. Orientation: scientific and practical, in the fields of mathematics, physics, astronomy, energy engineering, robotics, computer science. The nature of the competition: scientific and commercial. Restrictions: pupils of the 7-11 forms, provided they are under the age of 18 at the time of the Intel ISEF (international stage). Specifics: individual and team projects can be submitted. The project should cover the results of scientific research or practical developments.

Intel Eco Ukraine Orientation: scientific and practical, in the fields of mathematics, physics, astronomy, energy engineering, robotics, computer science. The nature of the competition: scientific and commercial. Restrictions: pupils of 9-11 forms of general education institutions, pupils of vocational and out-of-school educational facilities Specific feature: individual and team projects can be presented. The project should cover the results of scientific research or practical developments. Reference papers are not allowed for participation. Each participant can submit only one work to one of the

national stages of the international competition of scientific and technical students creativity for Intel ISEF (the second is the All-Ukrainian scientific and technical competition Intel-Techno Ukraine). If one participant submits one and the same work to both competitions or several works, the participant is disqualified without the right to participate in the competition in the current year.

All-Ukrainian scientific and technical exhibition competition for youth innovation projects «Future of Ukraine» Orientation: expanding the content of school education, independent research or research and applied activities of pupils in the fields of electronics and instrument making, materials science and advanced technologies, engineering, information and telecommunication systems and technologies, ecology and resource conservation, technical creativity and invention, robotics and robotics systems. The nature of the competition: scientific. Restrictions: pupils of 8-11 forms.

European BEST Engineering Competition. Orientation: design (electronics, mechanics). The nature of the competition: scientific. Restrictions: pupils of 9-11 forms, students of technical higher education institutions (competitions in certain categories). Specific feature: competitions do not require preliminary preparation of the project. The content of the tasks is determined by the organizers of the competition and updated annually. A wide range of engineering knowledge and skills is required.

Lego Robotica. Orientation: design. The nature of the competition: scientific and commercial. Restrictions: depending on the type of competition.

Startup competition “Sikorsky Challenge”. Orientation: practical implementation of high-tech projects with the involvement of sponsors. The nature of the competition: commercial. Restrictions: participation is allowed for projects of individuals (or teams), older than 18 years. Specific feature: students have the opportunity to practically realize their own socio-scientifically significant project.

Startup class idea competition. Orientation: expanding the content of school education, independent research or research and applied activities of students. The nature of the competition: scientific and commercial. Restrictions: pupils of 1-11 forms, teachers.

International conference of young scientists. Orientation: experience exchange between gifted students of European countries to popularize and intensify the participation of senior pupils in conducting research. The nature of the competition: scientific. Restrictions: discussed with the organizers in each case separately if there are questions to the content of participant's application forms. Specific feature: requires knowledge of English and preliminary preparation for translation and presentation of work.