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## Peculiarities of the Teaching of European Studies for Technical Specialties Students in Higher Educational Institutions of Ukraine (on the Example of Lviv Polytechnic National University)\*\*\*\*

Peculiarities of the Teaching of European Studies for Technical Specialties Students in Higher Educational Institutions of Ukraine (on the Example of Lviv Polytechnic National University)

**Abstract:** The purpose of the publication is to study the state and peculiarities of teaching European studies for students

of technical specialties in higher educational institutions of Ukraine, mainly on the example of Lviv Polytechnic National University (hereinafter LPNU), where the Erasmus+ Jean Monnet Chair project “European Studies for Technical Specialties” (hereinafter EUSTS) has been implemented since September 2022. The hypothesis of the presented research is the statement that with the strengthening of the European integration course of Ukraine the demand for knowledge

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about the European Union and the European integration of Ukraine among students of technical specialties is increasing, and university education is ready to satisfy such a request, applying the latest methods and approaches in the organization of education. The main focus is on clarifying the peculiarities of the formation of European studies in Ukraine; including not only classical, but also technical universities in this process; search for effective mechanisms for implementing knowledge about the EU into the educational process of students of technical specialties. To achieve the specified goals, a number of research methods were used, such as: historical-comparative, periodization, analysis of empirical data, systemic and structural-functional.

It has been found that the development of European studies in Ukraine has gone through several stages of its formation. The first lasted from the moment Ukraine regained its state independence in 1991 and was characterized by the presence of limited opportunities in universities to introduce European studies in the conditions of a centralized higher education system. The second stage was marked by the adoption of the Law of Ukraine “On Higher Education” (2014), which, in fact, provided sufficient tools for the development of European studies in Ukrainian universities. Similarly, at that time, the study of the European Union and European integration was formed at Lviv Polytechnic National University, including for students of technical specialties. On the basis of statistical data, it has been concluded that among the students of the National Academy of Sciences, there is a growing interest in the study of academic disciplines related to the EU and the European integration course of Ukraine. To a large extent, this is explained by the current political status of Ukraine as a candidate for EU membership and the strengthening of Ukrainian society’s support for the process of European integration as a result of Russian aggression. Accordingly, a number of educational disciplines have been introduced for students of technical specialties at the level of LPNU in recent years, which form knowledge about the EU and European integration, but only thanks to the implementation of international projects here, mainly the Erasmus+ Jean Monnet programs. This creates prerequisites for the fact that, in the future, separate educational programs in European studies can be developed at the university, which are most expedient to implement at the second (master’s) and third (PhD) educational levels. It is important that they focus on those policies of the EU and European integration directions of Ukraine that are of particular interest to students of technical specialties, for example, EU digital policy, EU energy policy, EU policy in the field of climate, environmental protection, etc. The acquired competences will not only allow the graduates of LPNU to implement European standards and values in their professional activities, but also to more effectively use the EU toolkit in the post-war reconstruction of Ukraine. Also, taking into account the recommendations of the Ministry of Education and Culture of Ukraine and the political situation of the state, it is worth introducing a mandatory edu-

cational discipline for all students of technical specialties of Ukrainian universities on the topic of the European Union, its principles, foundations and values, as well as the features of Ukraine’s European integration progress in various areas.

**Keywords:** research, European Union, European studies, technical specialties, Ukraine

## Introduction

On June 23, 2022, Ukraine received the status of a candidate for membership in the European Union. This historic decision, in fact, means that the large family of countries of the European community sees Ukraine as a member of the EU. This created both new opportunities and challenges for Ukraine. The intensity of implementation of Ukraine’s European integration course depends on a significant number of factors. The first is the understanding by Ukrainian society of the essence and principles of the functioning of the European Union, as well as those steps that European partners expect from Ukraine, that is, the implementation of European standards in all spheres of the functioning of the Ukrainian state. The deeper such knowledge will be, the more effective the trajectory of Ukraine’s movement towards the EU and public support for the European integration course will be.

Considering this, the issue of spreading knowledge about the European Union and European integration in general among those groups of the Ukrainian population that will directly implement European norms and values in various spheres of their professional activity becomes especially important. Hence, the role of higher education institutions of Ukraine is actualized, because the competencies acquired by students will allow bringing various policies closer to EU norms and standards. Whereas in previous years, knowledge about the European Union and the values of its functioning were mostly formed in students of social and humanitarian specialties (political scientists, internationalists, economists, lawyers), now it is quite obvious the need to spread such knowledge for students of higher education in technical specialties. After all, the implementation of the Association Agreement with the EU largely depends on changes in “non-humanitarian spheres”, in particular energy, energy efficiency, environmental protection, informatization, infor-

mation security, transport, transport infrastructure, architecture and construction, etc.; secondly, it is for graduates of technical specialties that the demand for the labor market of Ukraine is growing, and therefore they will become the main agents of changes in rapprochement with the EU and must be ready for them.

The purpose of the publication is to study the state and peculiarities of teaching European studies for students of technical specialties in higher educational institutions of Ukraine, mainly on the example of Lviv Polytechnic National University (hereafter LPNU), where the Erasmus+ Jean Monnet Chair project “European Studies for Technical Specialties” (EUSTS) has been implemented since September 2022. Its goal is the formation and dissemination of knowledge about the EU and European integration topics for students of technical specialties through the introduction of a number of training courses and the implementation of other activities. The hypothesis of the presented research is the statement that with the strengthening of the European integration course of Ukraine the demand for knowledge about the European Union and the European integration of Ukraine among students of technical specialties is increasing, and university education is ready to satisfy it, using the latest methods and approaches in the organization of education. The main focus will be on clarifying the peculiarities of the formation of European studies in Ukraine; including in this process not only classical, but also technical universities in this process; searching for effective mechanisms of implementation of knowledge about the EU in the educational process of students of technical specialties.

### **Peculiarities of the establishment and development of European studies in Ukraine**

The development of European studies began after the end of the Second World War, from the moment of the foundation of the European Communities. They began to be taught at European universities in the 1950s and 1960s. The main focus here was on the development of ideas, theories and understanding of the European integration process itself. Gradually, the subject of European studies expanded: from studies of the multi-level management system, federalization, the EU as

a regulatory institution to foreign policy and security, Europeanization, enlargement and neighborhood policy, environmental and economic policy, democracy and citizenship in the European Union, etc. A number of researchers interpret European studies as a part of political sciences, and others as an interdisciplinary field that relies on the achievements of various disciplines (Jupille et al., 2003, p. 8; Murray, 2000, p. 19–28).

According to Polish researcher Jacek Czaputowicz (2019, p. 18), European studies are derived from international relations, but also include parts of political science, economics, law and sociology. Their subject is the political, economic and social processes taking place in Europe. In a narrower sense, European studies is the study or research of the European Union, a subdiscipline of political science. It is this approach that is most widely used in the West, as it narrows the thematic field and focuses attention on the current state of European integration. Instead, in a broad sense, European studies are an example of regional studies, where attention is focused on knowledge about the politics, culture, language, history, economy, culture, geography of this or that region. In this case, they are based on multidisciplinary empirical research, and their programs form fragmentary rather than in-depth knowledge. Therefore, Czaputowicz (2019, p. 21–22) states, European studies are part of political science, but also a form of regional studies. From here, various spheres of EU functioning can be studied with the help of different disciplines, for example, European politics is studied by political scientists, law by lawyers, and economics by economists. It is important that the European Union can be studied in an interdisciplinary way. It is quite obvious that knowledge about the EU and European integration is developed in the university environment in different ways, namely: both through the introduction of individual academic disciplines (modules) and individual educational programs (including interdisciplinary ones).

The formation of European studies in Ukraine took place under the influence of many factors that belong not only to the field of education, but also to the social and political development of the state in general. Examining the history and peculiarities of the formation of European studies in Ukraine, the Ukrainian scholar Roman Kalytchak (2017) connected this process with the peculiarities of the functioning of local higher education, which, in his opinion, during

the 90s of the last century was in a long-term process of searching for the optimal form of its structure. Internal political transformations and the uncertainty of Ukraine's foreign policy priorities also had an impact. Therefore, the main obstacles to the development of European studies were the lack of stability and certainty, the opposition between different approaches to the development of the national system of higher education.

On this basis, we can distinguish several periods of the development of European studies in Ukraine from the moment of restoration of its state independence at the end of the 20th century until today. The first stage began in 1991. First of all, the problems of integration processes and its introduction into the educational process were dealt with by economists, and later by international experts. However, the development of European studies at that time, as rightly noted by Kalytchak (2017), was not full-fledged due to a number of reasons, such as: the lack of a resource base and a critical shortage of specialists who could ensure the proper training of such higher education seekers. Considering this, the researcher states, "the formation of the content of initial programs and the filling of courses on European integration topics took place more by trial and error than in a meaningful way" (Kalytchak, 2017, p. 135). However, during the last decade of the 20th century, it was possible to lay the foundations for the further development of European studies in Ukraine, which was due to a number of factors: (1) internal political factors (recognition of European integration as one of the key goals of building the Ukrainian state and the presence of an internal political consensus regarding the European choice); (2) external (intensification of EU-Ukraine bilateral relations and activities of European supranational institutions in the middle of Ukraine); (3) academic (strengthening of staffing and readiness of leading universities to teach educational components on various aspects of European integration at the appropriate level (Kalytchak, 2017, p. 136).

In the second half of the 90s of the 20th century, certain aspects of European integration began to be gradually introduced into the educational process, and an understanding of the pluralism of European studies was gradually formed. The main reason for this was active horizontal connections with foreign universities, where sufficient experience in teaching

European studies had already been formed at that time. Also in 1998, the Strategy for the Integration of Ukraine into the European Union was approved, which emphasized the creation of new programs in the education system, as well as the introduction of specializations on EU issues within the educational programs of universities (Decree of the President of Ukraine, 1998). Actually, such a document actualized the issue of the need to train European specialists and formalized the status of European studies in Ukraine, but did not propose clear steps and mechanisms for this. Nevertheless, already at the end of the 1990s, the first groups of Ukrainian university graduates who had knowledge of certain aspects of European integration were prepared. However, there was still no established policy on the development of European studies at the state level, so this process was rather the result of the universities' own initiative (Kalytchak, 2017, p. 135).

At this stage, the higher education system in Ukraine still contained many Soviet vestiges and remained quite centralized, with a list of required qualifications, fields and specialties, industry standards of higher education, as well as normative academic disciplines with typical curricula unrelated to European studies. The autonomy of universities in the organization of education was as limited as possible. Although the Ministry of Education and Science of Ukraine periodically revised the list of specialties for bachelors and masters training, it did not include a separate specialty from European studies (Resolution of the Cabinet of Ministers of Ukraine, 2006).

Actually, this made it impossible to open bachelor's and master's programs in European studies, or even more so, interdisciplinary programs. At the same time, even with such limited opportunities, universities were still able to introduce specializations in European studies within certain specialties, for example, "Political Science", "International Relations", "Public Administration", "Management of Foreign Economic Activity". There were less than ten such cases in Ukraine during this period. As mentioned above, they were mostly implemented with the support of foreign partners based on the results of international projects. But this did not comprehensively solve the problem of the full development of European studies in Ukraine for several reasons. First, the academic disciplines of a specific specialization belonged exclusively to the selective part of the curriculum, while the normative

disciplines did not form basic knowledge of European studies. In this way, the principle of continuity and logic in the education of students was not ensured. Secondly, in contrast to European countries, the existing list of specialties made it impossible to obtain a higher education diploma in the specialty “European Studies” in Ukraine. So, at this stage, knowledge about the European Union and European integration could be formed through the introduction of: specializations in European studies; individual educational disciplines in selective blocks; individual lecture topics within academic disciplines. At the same time, such practices were not common even in classical universities, which are traditionally more focused on socio-humanitarian specialties.

However, at the level of the academic community, the issue of the convergence of the national list of specialties with European ones and the “Europeanization” of the higher education system in Ukraine in general was constantly discussed. To a large extent, this was connected with the official accession of Ukraine in May 2005 to the Bologna process for carrying out structural transformations of higher education, using for this an agreed system of criteria, standards and characteristics of the European educational and scientific space. However, such changes were difficult, and inconsistencies with advanced European and world practice remained.

Actually, the second stage opened up new opportunities for the development of European studies in Ukraine and was marked by the adoption of the Law of Ukraine “On Higher Education” in 2014 (Law of Ukraine, 2014). Today, the training of specialists at all levels of higher education is carried out according to the relevant educational programs (educational-professional or educational-scientific). That is, admission is not to a specialty, but to an educational program, the development and implementation of which is the prerogative of a higher education institution within the university autonomy. Also in April 2015, the Resolution of the Cabinet of Ministers of Ukraine approved the list of fields of knowledge and specialties for which higher education candidates are trained (Resolution of the Cabinet of Ministers of Ukraine, 2015). There is no separate specialty “European Studies” in the list, but each institution of higher education can introduce such an educational program within this or that specialty with an appropriate focus. An important change

is that the name of the educational program is already indicated in the graduate diplomas. Also, students can choose 25% of study credits on their own, and universities are introducing subjects related to the European Union and European integration to the list of optional subjects. Therefore, institutions of higher education independently develop and approve educational programs taking into account the requirements for the corresponding level of higher education, established by legislation and standards of higher education. This allowed many universities to develop and implement many educational programs in European studies. For example, there are such programs at National University of Kyiv-Mohyla Academy (“European Studies”), Taras Shevchenko National University of Kyiv (“American Studies and European Studies”), Lesya Ukrainka Volyn National University (“German and European Studies”), Ivan Franko National University of Lviv (“European Studies”), etc.

Also, the Law of Ukraine “On Higher Education” provides for the possibility of introducing interdisciplinary educational programs, but this process has slowed down somewhat due to the lack of a more detailed algorithm of actions regarding their development and accreditation. However, in 2021, such a mechanism was clarified by the Order of the Ministry of Education and Culture of Ukraine “On approval of requirements for interdisciplinary educational (scientific) programs” (2021). It is stated here that an interdisciplinary educational (scientific) program involves the acquisition of knowledge that is on the border of different fields, specialties and/or belongs to several specialties, which determine its subject area. That is, educational programs in European studies can be developed and implemented as interdisciplinary, thus expanding the circle of potential listeners and forming a wide list of graduate competencies.

An important point was the approval of the “new generation” standards, which are developed for each level of higher education within a specific specialty, in accordance with the National Framework of Qualifications and are used to determine and evaluate the quality of higher education and the results of educational activities of higher education institutions in the relevant specialties. They contain a list of mandatory learning outcomes and graduate competencies, and the institution of higher education independently selects the ways to ensure them, filling them with appropriate

educational components. That is, the institution of higher education, after developing a specific educational program, forms a curriculum, determines the list and volume of educational components in ECTS credits, their logical sequence, forms of organization of the educational process, types and volume of educational classes, the schedule of the educational process, forms of current and final control, which together ensure that the applicant of the corresponding degree of higher education achieves program learning results.

At the current stage, even more attention is paid to the development of horizontal international relations and the exchange of best practices with foreign partners, which is an important component of ensuring the quality of higher education in Ukraine. This means that progressive foreign experience in teaching European studies can, in fact, be implemented without barriers in Ukrainian educational practice.

So, European studies in Ukraine have been developing since the end of the 20th century. The first stage began in 1991 and was characterized by limited opportunities for universities to implement knowledge about the European Union and European integration into the educational process, so only isolated cases of the introduction of specializations or individual academic disciplines on such topics were recorded. Instead, conceptual changes in the teaching and development of European studies in Ukraine are directly related to the adoption of the Law of Ukraine “On Higher Education” (2014), new approaches to the development of educational programs and the ability of universities to implement educational programs within their autonomy, as well as the political conditions in which our state found itself after the Revolution of Dignity. Mainly, it is about the signing of the Association Agreement between Ukraine and the EU, the acquisition of the status of a candidate for EU membership, and the consolidation of the European integration course of Ukraine’s foreign policy at the constitutional level. After the full-scale invasion of the Russian Federation, the Ministry of Education and Culture of Ukraine, in a letter dated June 28, 2022, emphasized the feasibility of introducing educational disciplines on the topic of European integration into the educational process and conducting scientific research on the specified topic to provide citizens of Ukraine with the necessary competencies that will allow them to take advantage of the opportunities provided by European integration

and the subsequent full membership of Ukraine in the European Union. Undoubtedly, this approach opens a new perspective for the development of European studies in Ukraine, including for those students studying technical specialties.

### **Formation of knowledge about the European Union and the European integration of Ukraine at Lviv Polytechnic National University**

Obviously, the development of European studies at Lviv Polytechnic National University took place and is taking place in the national educational trend. Similarly, two stages should be distinguished here: the first started in 1991, and the second started in 2014 and continues until now. At the first stage, in Lviv Polytechnic, as well as in the university environment at that time in general, there were no favorable conditions for the dissemination of knowledge about the EU or European integration among students. To a rather limited extent, they were formed by the so-called “normative disciplines” of social and humanitarian direction, defined by the Ministry of Education and Culture of Ukraine as mandatory, in particular: “Political Science”, “History of Ukraine”, “Philosophy” and “Sociology”, which were taught to students of all technical specialties. But their programs were typical, they did not even include separate topics about the European Union, European integration or the history of cooperation between Ukraine and the EU. For example, the academic discipline “Political Science” included only one two-hour topic “Foreign Policy of Ukraine” in the lecture course, where the European Union was mentioned quite casually. Therefore, at this stage, students of technical specialties not only did not have even fragmentary knowledge about the European Union and the European course of Ukraine, but there was also no opportunity to obtain it, if such interests arose among students. In part, such a gap in knowledge was compensated by the involvement of students in scientific work or thematic circles, but the coverage of the youth audience was insignificant here.

The adoption of the Law of Ukraine “On Higher Education” (2014) created favorable conditions for the intensification of the development of European studies at Lviv Polytechnic. As already mentioned, the univer-

sity was given the opportunity to introduce separate educational programs or academic disciplines on such topics and to use the results of non-formal education. A key element was the strengthening of international communication, first of all with the universities of EU countries and European institutions that promote research on the European Union and European integration. International activity has become an important component of the quality of the educational program or educational and scientific process of LPNU, which is reflected in the Lviv Polytechnic – 2025 Development Strategy (2020). In order to strengthen international cooperation, certain stimulating measures were introduced, namely: (1) new institutions were created (Center of International Education; Project Office; Center for Quality Assurance of Education of Lviv Polytechnic); (2) financial incentives for teachers for achievements in this field have been introduced; (3) taking into account the results of international cooperation in the rating of scientific and pedagogical workers or departments, as well as in competitive selection (for example, implementation of international grants, international internships, etc.). Such a comprehensive approach has given its positive results. Lviv Polytechnic not only improved its position in the world and national rankings thanks to international work, but also became more active in the development of European studies. Thus, during 2019–2021, thanks to the Jean Monet program, five modules were introduced into student training plans and two Jean Monet departments were created. Instead, in 2022, the university already received eleven Jean Monet modules, and in 2023 – five. If during 2019–2021, such projects were mostly socio-humanitarian in nature (political scientists and economists), then later also technical (computer engineering, computer science, chemical technologies). We can claim that this creates prerequisites for the development and implementation of interdisciplinary programs in European studies in the future, which is extremely important for Ukraine's implementation of the European integration course.

However, at the moment it is too early to talk about the existence of separate educational programs in European studies at the university level. The current situation shows that as of 2022–2023 year, the number of bachelor's programs is 77; master's – 196; of PhD programs – 53. Unfortunately, no program either by name or by content belongs to the category of Eu-

ropean studies. There are also no interdisciplinary programs in European studies. Although the Master's Energy Security program tends to such because it contains a number of educational disciplines of European integration topics, such as: "Energy infrastructure of Ukraine and the EU", "Energy policy of the EU", "International and national energy policy", "Sustainable development strategy and energy security", "Energy Diplomacy", "Current problems of the foreign policy of Ukraine", "Trends of energy policy in the conditions of globalization" and others. In the future, this educational program can be transformed into an interdisciplinary category with a focus on EU energy policy and the implementation of European standards in the energy sphere of Ukraine, its post-war recovery.

For the most part, knowledge about the EU and the European integration of Ukraine among students of technical specialties is formed thanks to the introduction of certain disciplines, both mandatory and optional, into the curricula. Currently, no educational or educational-scientific program contains mandatory disciplines that would thematically belong to European studies. The situation is somewhat different with optional subjects, which are also divided into two groups: (1) optional subjects within the framework of a specific educational program, which can be chosen only by those students who are studying under such a program; (2) a list of university-wide optional subjects that can be chosen by students from any specialty. In the first case, only the educational program "Computer Sciences" includes the disciplines "Standards of personal data protection in the EU: implementation in Ukraine" and "Next generation networks and data protection", which are introduced as part of the project "Protection of personal data in the EU" of the Erasmus+ Jean Monnet Module program.

Elective disciplines for students of all specialties include a total of 55 disciplines (Bachelor's level of education), 4 of which are about the EU and European integration. Thus, the educational disciplines "EU Energy and New Trends for Ukraine", "Environmental and Climate Sustainability of the EU", "Ukraine-EU: Digital Transformation" have been implemented thanks to the project "European Studies for Technical Specialties at Lviv Polytechnic National University" (EUSTS) of the Erasmus+ Jean Monnet Chair program, and the discipline "Logistics and supply chain management: dissemination of European experience"

has been implemented as a part of the project “Logistics and supply chain management: dissemination of European experience” of the Erasmus+ Jean Monnet module program. On the other hand, at the PhD level, none of the ten electives deals with European studies.

Although in 2022-23 the number of Jean Monnet projects at the university has increased significantly, an administrative decision was made to teach the EU modules derived from them as electives. For students of technical specialties, the following optional courses are offered, such as: “European aspects of the distribution of medicinal products at the stages of promotion from producer to consumer”, “Fundamentals of logistics and supply chain management in pharmacy”, “Economics of sustainable development in the context of digitalization: EU experience”, “Methods and models of digital sustainable economic development: European practices”, “Technologies and standards of personal data protection”, “Industrial Internet of Things and data protection”, “Reliable artificial Internet lecture: European approach”, “Ethical artificial intelligence: implementation of European experience”, “European approach to artificial intelligence”. Therefore, we can state that all disciplines that form knowledge about the EU and European integration are introduced for study at LPNU thanks to the Erasmus+ Jean Monnet program with the support of the European Commission and are mostly taught in the form of electives.

The introduction of such disciplines for students of technical specialties has a number of advantages, because they form general knowledge about the European Union, its values and policies in various areas, the European integration of Ukraine, as well as students’ interest in further study (research) of such topics; develop and spread non-standard innovative approaches to education. They are also student-centered, because they improve according to the needs and interests of the listeners, form not only general, but also professional competences. At the same time, the format of their teaching as selective or optional significantly narrows the reach of the student audience, which is not justified at the current stage of Ukraine’s political progress, when specialists from various fields of European integration will be in great demand on the labor market.

It should be noted that students are interested in studying subjects related to the European Union at Lviv Polytechnic. For example, during the spring and

autumn semesters of the 2022-2023 academic year, 935 university students expressed a desire to study disciplines within the framework of the repeatedly mentioned project “European studies for students of technical specialties at Lviv Polytechnic National University”, and for the 2023-2024 academic year, almost 750 students have already chosen these disciplines (excluding college graduates). For comparison, the teachers of the Department of Political Science and International Relations previously offered them elective courses “Political Science”, “Theory of International Relations”, “Social Policy”, the popularity of which was much less, because only 79 students chose them in the 2021-2022 academic year, although cooperation between the EU and Ukraine in the field of foreign policy and social standards was also partially considered here. As we can see, the popularity of training courses within the framework of the EUSTS project is ten times greater, and the reason for this, in our opinion, is the desire of students to study not only the European Union, but also cooperation between the EU and Ukraine in their professional field and the use of interactive methods during training.

Also, as a result of studying the disciplines “Ukraine-EU: digital transformation”, “Environmental and climate sustainability of the EU” and “EU energy policy: trends for Ukraine”, students improved their knowledge about the EU (see fig. 1), its policies and the European integration process of Ukraine, as evidenced by the results of incoming and outgoing surveys.

Thanks to the EUSTS project, the “European Studies for Technical Universities” Center was created at the university, whose specialists systematically survey all those interested in the development and study of European studies (60 questionnaires were processed in total). According to the survey results, 89.1% of respondents are interested in knowledge about the European Union and the European integration of Ukraine, and first of all, cooperation between the EU and Ukraine, EU foreign policy, EU policy on environmental protection, EU policy in the field of digitalization, EU energy policy, European law, EU climate policy and the history of the formation of the EU. The topics of ethno-national policy of the EU, economic and scientific cooperation of Ukraine with the EU, etc., arouse less interest. Also, only 36.4% of respondents believe that a sufficient level of knowledge about the EU is formed at the level of university education,



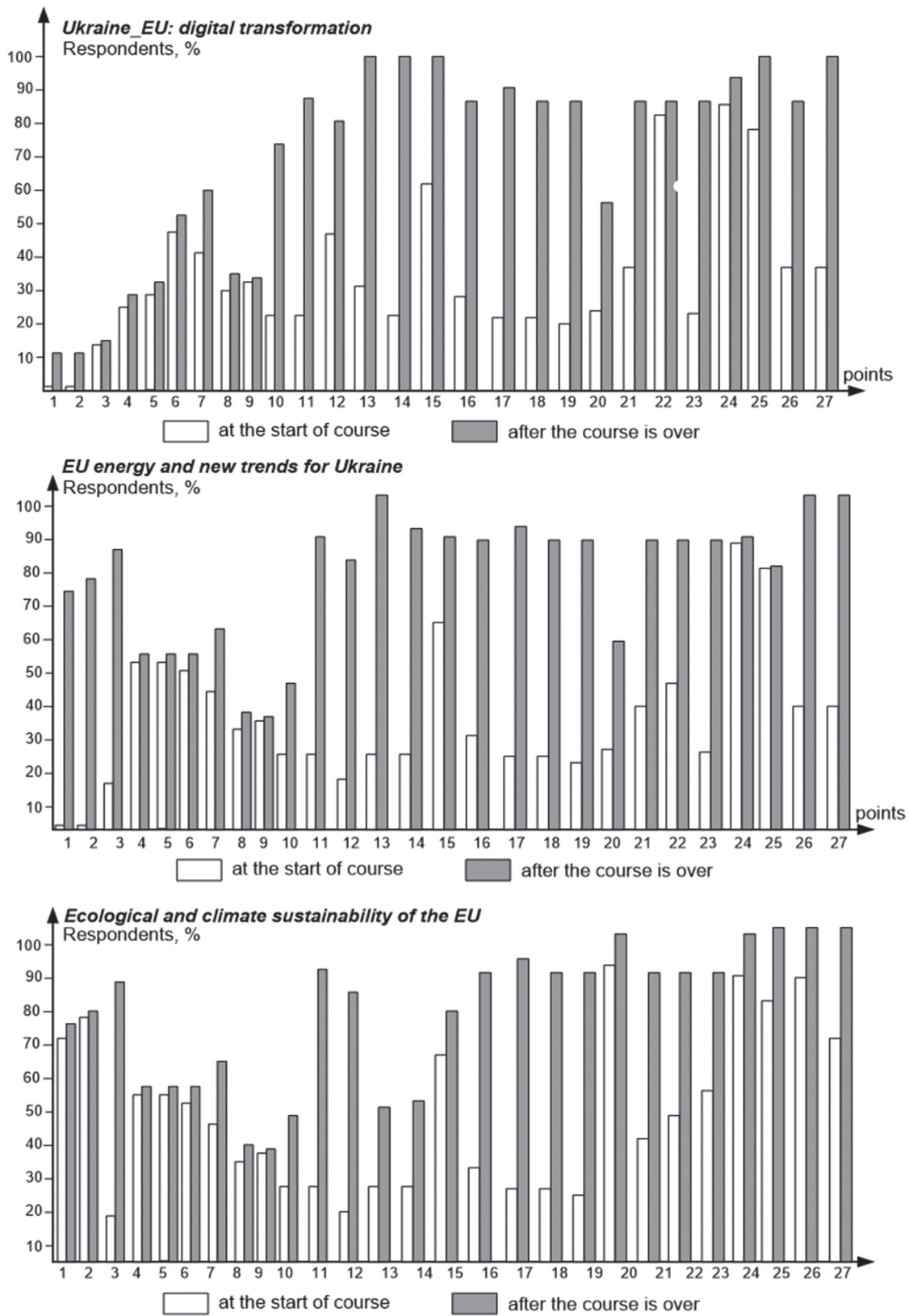


Fig. 1. Chart of results before and after studying the course

and 89.1% believe that educational programs should include subjects about the European Union and the European integration of Ukraine. 47.3% of respondents noted that such disciplines should be taught as selective, 38.2% – as compulsory, and 14.5% – as optional. 90.9% of respondents expressed a desire to study or teach at educational programs in European studies (for example, “EU Digital Economy”, “EU Law”, “EU Energy Policy”, “European Culture”, “EU Foreign Policy”, “EU and Environmental Protection”, “EU and Regional Policy”, etc.). Also, 81.8% of respondents believe that knowledge about the EU and European integration of Ukraine is necessary for their professional activities.

## Conclusions

Therefore, the data of the sociological survey based on the example of Lviv Polytechnic National University testify to the growing interest among students of technical specialties in studying academic disciplines related to the EU and the European integration course of Ukraine. To a large extent, this is explained by Ukraine’s current political status as a candidate for EU membership and growing public support for European integration in the context of Russian aggression. Thanks to the adoption of the Law of Ukraine “On Higher Education” (2014), universities within the framework of autonomy have sufficient tools for the development of European studies, including the possibility of creating separate educational programs or introducing new academic disciplines (modules). Human resources is sufficient to realize such goals. Accordingly, in recent years, a number of educational disciplines have been introduced at the level of LPNU, which form knowledge about the EU and European integration, but only thanks to the implementation of international projects here, mainly the Erasmus+ Jean Monnet program. Some of the modules are implemented in the curricula as optional subjects, but the majority are taught in the form of electives, which significantly narrows the possible student audience. However, the growing number of implemented disciplines of this type makes it possible to assume that in the future, separate educational programs in European studies will be developed at the university, which are most expedient to implement at the second (master’s)

and third (PhD) educational levels. It is important that they focus on those EU policies and European integration directions of Ukraine that are of particular interest to bachelor graduates of technical specialties, for example, EU digital policy, EU energy policy, EU climate sustainability, etc. The acquired competences will not only allow the graduates of LPNU to implement European standards and values in their professional activities, but also to more effectively use the EU toolkit in various areas of the post-war reconstruction of Ukraine. In our opinion, taking into account the recommendations of the Ministry of Education and Culture of Ukraine and the political situation of the state, it is worth introducing a mandatory educational discipline for all students of technical specialties of Ukraine on the topic of the European Union, its principles, foundations and values, as well as the features of Ukraine’s European integration progress in various areas.

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