



**PRIVATE INSTITUTION  
«HIGHER EDUCATION INSTITUTION  
«INTERNATIONAL HUMANITARIAN  
AND PEDAGOGICAL  
INSTITUTE «BEIT-KHANA»**

**Department of pedagogy and psychology**

**SYLLABUS**

**of academic discipline**

**INFORMATION AND COMMUNICATION  
TECHNOLOGIES IN PROFESSIONAL ACTIVITY**

**Teacher-developer: Drimko G. M.**

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## 1. Description of the academic discipline

Name of indicators	
Teaching language	Ukrainian
Semester	1-2
Total hours	40
Number of content module	8
Form of final control	Exam

## 2. The purpose and objectives of the academic discipline

The ***purpose*** of teaching the educational discipline «Information and communication technologies in professional activity» is to prepare masters for the systematic and appropriate use of information and communication technologies in their educational, scientific and professional activities, the development of their systemic, technological, visual and pedagogical thinking for functioning in a modern integrated computer environment.

When determining the ***goals*** of teaching the discipline «Information and communication technologies in professional activity», two aspects should be distinguished, namely: psychological and technological. When implementing the psychological aspect, the leading ideas are the professional orientation of master's informatics training on the activities of a practical psychologist, the determination of ways and means of differentiation and individualization of approaches from the point of view of modern requirements for the informatization of psychological counseling. The technological aspect is realized by consolidating students' theoretical knowledge base on information technologies and providing practical skills in using a computer as a means of professional activity of a practical psychologist. Taking into account the peculiarities of the implementation of the selected interrelated aspects makes it possible to implement a holistic approach to the implementation of all tasks.

The main ***objectives*** of the educational discipline «Information and communication technologies in professional activity» are:

- replacing the conceptual level of master's informatics training with a professionally oriented one specifically for remote psychological counseling;
- formation of the skills of competent formulation of tasks that arise in the practical activity of a psychologist, for their solution with the help of ICT;

- expansion and deepening of the theoretical base of modern approaches to the processing of psychological material using various types of software environments;
- consolidation of skills of processing various types of data with the help of modern information technologies for solving psychological consulting tasks and for future professional activities;
- formation of skills in the qualified use of the main types of modern information systems and packages of general and special application programs for solving practical problems with their help and understanding the basic principles that underlie the functioning of these systems;
- further practical mastering of computer technologies for working with electronic platforms that may contain text fragments, tables, graphic images, multimedia objects, hypertext links, etc.
- formation of independence in students' activities and understanding of the possibility of a wide variety of application of theoretical knowledge, practical skills and skills obtained by them in the work of a practical psychologist.

### **3. Competencies and planned results of study**

Discipline «Information and communication technologies in professional activity» ensures the acquisition of *competencies* by students: generally professional and professional-psychological ones.

#### **Competencies that are formed:**

**GC 1.** Ability to apply knowledge in practical situations.

**GC 2.** Ability to conduct research at the appropriate level.

**SC 2.** Ability to independently plan, organize and carry out psychological research with elements of scientific novelty and/or practical significance.

**SC 3.** Ability to choose and apply valid and reliable methods of scientific research and/or evidence-based methods and techniques of practical activity.

**SC 4.** Ability to carry out practical activities (training, psychotherapeutic, consulting, psychodiagnostic and other depending on specialization) using scientifically verified methods and techniques.

**SC 10.** Ability to develop and implement innovative methods of psychological assistance to clients in difficult life situations.

#### **Program results of study:**

**PR 1.** Search, develop and analyze professionally important knowledge from various sources, using modern information and communication technologies.

**PR 2.** To be able to organize and conduct psychological research using valid and reliable methods.

**PR 6.** Develop educational materials and educational programs, implement them, receive feedback, evaluate quality.

**PR 10.** Carry out an analytical search for scientific information that corresponds to the formulated problem, and evaluate it according to adequacy criteria.

As a result of studying the course « Information and communication technologies in professional activity» applicants should:

**know:**

- principles, norms of ethics, social morality, cultural rules of behavior in the information society;
- scientific and methodical approaches to the use of ICT in psychology, features of the introduction of ICT in psychological counseling;
- the basics of effective communication and presentation of complex information in digital form, using ICT tools for this purpose;
- software and technological principles of improving the quality of psychological counseling with the use of appropriate ICT tools;
- the use of modern means of information and computer technologies to solve communicative problems in the professional activity of a psychologist;
- main types of modern software for processing psychological information;
- methods of designing professional software tools in different contexts and environments for solving psychological problems;
- purpose of computer systems for processing texts, graphics, multimedia, their classification and tools, principles;
- representation and processing of numerical, textual, tabular, graphic data.

**be able:**

- to solve professional problems on the basis of a wide range of ICT tools, plan possible options for using ICT in the process of psychological counseling;
- to search, process and analyze, systematize and generalize information, in particular professional and psychological, from various sources;
- to adapt the process of psychological counseling to the informational computer environment;
- to use automation technologies for solving psychological problems using information modeling methods (systematization, structuring, visualization);
- to organize the technological process of processing psychological material using the tools of basic software to perform practical tasks of professional activity with its help;
- to operate basic software: work with text processing tools, computer graphics and multimedia;
- to have information storage, search and sorting technologies, including communication technologies;
- to properly draw up typical documents of a practical psychologist;
- to implement different types of interface in multimedia guides - linear, controlled, interactive.

**master:**

- basic operations on information objects by means of ICT, in particular, to create and develop electronic psychological manuals in various software environments to solve the problems of informatization of psychological counseling;
- technologies for storing, searching, processing and sorting data of various types, using all possible electronic resources to ensure the information needs of subjects of psychological counseling;
- means of computer graphics and multimedia, ways of combining textual and graphic possibilities of presenting psychological material;
- variable methods of computer support for the process of psychological

counseling, the possibility of conducting computer monitoring of psychological data, statistical processing of indicators.

#### **4. Content of the program of academic discipline**

##### **Content module 1. Technologies for working with printed manuals in a text environment**

###### ***Topic 1. Using the text environment of software applications (2 hours).***

Starting the text processor (TP), interface elements. Creating a new document. Rules for entering characters. Text editing. Working with text fragments: selecting, inserting, moving, copying, extracting, searching and replacing text fragments. Clipboard and its use with the tool triad. Formatting text characters: choosing a font, changing the size of letters, drawing, color, setting effects. Inserting additional and special characters. Non-standard fonts such as Symbol, Webding, Wingding. Formatting paragraphs: changing indents, alignment type, spacing. Numbered, bulleted, multilevel lists. Setting page parameters, adding footers. Use of gaps. Breakdown into sections between pages, on the current page. Formatting the text with columns.

###### ***Topic 2. Використання табличного середовища програмних додатків (4 години).***

Creating tables in a text document (inserting an empty one, drawing an arbitrary table, converting existing text into a table). Work with table data (input, selection, deletion). Editing and formatting of tables. Possibilities of changing the size of the table, cells, autoselection. Merging and dividing cells, adding and removing. Formatting the content and appearance of tables. Filling cells. Auto format Calculation in word processor tables. Cell addressing. Expediency of using formulas. Creating charts and graphs. Analysis of tabular data.

Execution of tasks for processing text materials for educational (abstracts, term papers, theses) and professional activities (plans, reports, etc.).

##### **Content module 2. Technologies for working with printed manuals in a graphic environment**

###### ***Topic 3. Use of vector tools (primitives) (2 hours).***

Software tools for working with vector images. Types of tools for working with vector images in the word processor environment. Creation and processing of vector graphic objects, changing the characteristics of autoshapes (line thickness, filling, design with arrows, adding shadow and volume). Adding text to autoshapes. Using the "Inscription" tool. Creation of artistic text WordArt. Use and autoformatting of organizational charts.

###### ***Topic 4. Creation of graphic compositions (2 hours).***

Inserting standard drawings of various types from collections. Creation of the necessary compositions by selecting and combining individual cliparts and autofigures. Grouping/ungrouping of objects. Possibilities of transformations of graphic objects — moving and copying, rotation and display, changing the order of placement relative to the layers of the composition.

Creation of didactic guides from various types of graphic objects. A rational combination of textual and graphic methods of presenting educational material

when designing manuals.

### **Content module 3. Technologies for working with printed manuals in the publishing environment**

#### ***Topic 5. Use of standard publications (4 hours).***

Use of the publication program for educational purposes (educational, developmental, educational). It is appropriate to choose the right type of publication to present the relevant information block (booklets, forms, bulletins, announcements, invitations, business cards, certificates, programs), and to adhere to a uniform style. Filling out publications of the selected type, using design templates. Rules for entering and editing text fragments. Peculiarities of working with graphics in publications. Types of figures and their graphic formats for use in publications. Replacement and addition of drawings. Entering captions under the pictures. Grouping and ungrouping of objects. Work with autofigures, composing compositions. Using the assembly area. Designing and printing of publications. Features of preview mode. Setting the parameters of printed sheets. Printing of various types of publications.

#### ***Topic 6. Creation of author's publications (2 hours)***

Development of the script and layout of the informative educational booklet. Entering text into a booklet: working with existing text frames, connecting and disconnecting text frames, creating new text frames, deleting text frames. Changing standard font schemes. Content planning, development of the script of the information training form. Enhance your letterhead with layout library objects: headers, sidebars, callouts, margins, ornaments, cornices, markers, and more.

### **Content module 4. Technologies for working with hypertext manuals**

#### ***Topic 7. Organization of hyperlinks in text documents (2 hours).***

Working with the structure of a text document, using styles. Automation of design (document content, names of tables, figures). Creation, filling and protection of forms (preparation of forms, implementation of tests of various types). Organization of hyperlinks in electronic documents. Viewing training manuals in PDF format, their processing, conversion to text format.

#### ***Topic 8. Creation of web documents in publishing environments (2 hours).***

Creation of hypertext manuals by means of publishing environments using sets of web page layouts with appropriate markup and created hyperlinks. Selection of thematic material, breaking it down into logical blocks, inserting it into the selected layout using the auto-content wizard. Setting up the website design, sound accompaniment. View and save web pages.

### **Content module 5. Technologies of psychological calculations**

#### ***Topic 9. Computer monitoring (2 hours).***

The use of spreadsheet processors for the professional activity of a psychologist. Spreadsheet tools and objects, basic data formats. Creating, editing and formatting spreadsheets. Basic rules and means of performing calculations. Creation, editing and formatting of graphs and charts. Carrying out psychological monitoring (determining dynamics, graphical presentation of research results, etc.).

***Topic 10. Computer diagnostics (questionnaire) (2 hours).***

Creation of author's forms of questionnaires (for use during psychological counseling), formatting and editing of form components, application of appropriate elements of forms, formulas, and artistic design.

**Content module 6. Computer testing technologies**

***Topic 11. Use of electronic spreadsheets (ET) for testing (4 hours).***

The use of a spreadsheet to design various types of test tasks by implementing standardized stages: creating a form for testing; inserting the necessary form elements; binding of inserted form elements with table processor cells; entering the correct answers to the cells of the table; insertion of logical functions that allow to evaluate the correctness of the user's answer to the question; assessment of performance of all test tasks, i.e. summarizing the results of the testing process. Use of built-in objects, graphics, organization of hyperlinks. Analysis of test results, their graphic representation and printing.

***Topic 12. Organization of interactive tests of various types (2 hours).***

Creating tests using forms that allow you to work in an interactive mode based on controls (field, checkbox, scroll bar, switch, list, etc.). Working with selection and compliance tests in the spreadsheet environment: filling out the text part of the test, graphic design, organization of test answer processing, protection and storage of testing results.

**Content module 7. Technologies for working with multimedia**

***Topic 13. Demonstration multimedia capabilities (2 hours).***

Psychological conditions for the use of multimedia tools in the professional activity of a psychologist, familiarization with the requirements for the structure and content of multimedia teaching aids. Possibilities of creating typical presentations in multimedia environments. Using wizards and templates, changing their markup and color. Interface and typical presentation objects. Creation, editing and formatting of presentation objects. Selecting and editing slide designs. Changing the background, color schemes. Changing the properties of text and graphic objects. Use of standard animation schemes.

***Topic 14. Peculiarities of working with presentations (4 hours).***

Requirements for the structure and content of presentations, compliance with development stages. Material structuring. The main criteria for the selection and development of slide elements according to the markup, types of automarking of the layouts of the placement of objects on the slides. Using clipart and organizational charts. Arbitrary addition of animation effects to individual objects. Slide transition effects. Sound decoration of the presentation with music, text, sound effects (background accompaniment and "binding" of a sound effect to a certain animated object). Record your own sound files. Possibilities of demonstration and preservation.

**Content module 8. Technologies for working with multimedia guides**

***Topic 15. Using multimedia to consolidate and control knowledge (2 hours).***

Ways of using multimedia presentations in the professional activity of a teacher. Creation of presentations for various purposes: demonstration in automatic mode, presentation in controlled display mode. Taking into

account the requirements for the structure and content, and the expediency of placing objects, animation and sound on the slides. Presentations with a branched structure due to hypertext links. Customization of animation effects and parameters set for them.

### **Topic 16. Organization of hyperlinks (2 hours).**

Create interactive presentations with feedback using triggers. Transitions to external files - linked and inserted objects of application programs. Viewing multimedia files in the format of flash objects (SWF), video fragments (AVI), embedding them in a presentation. Management of the presentation demonstration process (using context menu commands), use of the current "pencil" pointer. Demonstration on the Internet, network conferences. Printing options (by slides, by issues, by structure), order of location on the page.

5. Form of final control of success: *exam*.

## **6. Individual educational and research tasks**

In order to optimize the independent work of students, the idea of using individual educational and research tasks (INDZ) was used, which is a type of independent work of the student, which is performed in the process of studying the program material of the educational course and ends with the preparation of a final assessment with of the educational discipline "Information and communication technologies in professional activity". The purpose of the INDZ is an in-depth independent study of part of the program material, systematization, generalization, consolidation and practical application of students' knowledge on examples of the implementation of electronic samples of psychological materials in support of the professional activity of a practical psychologist.

## **7. Teaching methods**

The *teaching method* is a system of successive interconnected actions of the teacher and students, which ensure the assimilation of the *content* of education and are aimed at achieving the corresponding educational *goals*.

The *explanatory and illustrative method* is used when introducing the concepts of the main functions of software applications (text and graphic editors, spreadsheets, presentation programs). With this teaching method, the activity of the teacher is reduced to the presentation of new educational material using structural and logical schemes, and the activity of the students is to the perception, awareness, and memorization of the material.

The *reproductive method* is used when consolidating theoretical material while performing practical tasks according to a sample.

Methods of *problem-based learning* are implemented in the form of a problem-based presentation during lectures (during familiarization with various technological methods of work in software environments), as well as partially research-based in the course of practical work (through students' implementation of a variant of mastered techniques).

The *case study* method demonstrates an object-oriented approach to computer information modeling. and is implemented by selecting educational information models that are most adequate for one or another stage of the didactic learning cycle, especially considering the professional focus of future primary



school teachers. For example, these can be examples of clarity when mastering the possibilities of text, tabular and graphic environments, or forms of electronic reporting of success in a table processor environment.

The *research method* allows students to form the experience of creative, independent research activity, as much as possible aimed at the future profession, for example, when selecting samples of the same visibility for their reproduction in electronic form.

All these methods are implemented in combination and parallel use.

## 8. Control methods

*Control methods* – methods of activity of the teacher and students, in the course of which the assimilation of educational material and mastering of certain knowledge, abilities and skills by students are revealed.

*Current control* – an organic part of the entire pedagogical process and serves as a means of detecting the degree of perception (assimilation) of educational material. The current control of knowledge, skills and abilities is the most voluminous and its functions are significantly expanded during modular training. Under the current control of knowledge, abilities and skills, the following types of control are used: self-control, practical inspection, testing. Current monitoring of the results of completed tasks in practical, and in the case of learning information technology using computing equipment - laboratory classes, is carried out by the teacher at the end of the current class, but it can also be done online.

To check the quality of the theoretical material presented in the lectures, it is suggested to use *self-monitoring* (answers to questions aimed at self-actualization of the acquired theoretical knowledge) and tentative test tasks that allow students to independently check the results of their own cognitive activity.

*The method of programmed (standardized) control* is directly related to the creation and consistent use of a system of *test* control of knowledge acquisition. The use of programmed control of students' knowledge enables the teacher to quickly get a general idea of the level of mastery of the material. The use of test tasks can occur during current, modular (performed at the end of each structural module in the Test-W2 test shell) and semester control of students' knowledge in various forms.

*Control during extracurricular time* includes checking the progress of current tasks, educational and research tasks during independent work, as well as final control tasks for credit.

*The rating control* consists in evaluating in points all the results at the stages of current, modular and final control of knowledge and summing them up from stage to stage, forming a student rating. The obtained sufficient amount of points enables the student to receive a grade automatically.

Only the complex application of all methods makes it possible to regularly and objectively identify the dynamics of the formation of the competence system of students in the discipline «Information and communication technologies in professional activity».

## 9. Criteria and procedure for assessing the results of training

### Rating Scale: National and ECTS:

The amount of points for all types of educational activities	ECTS Rating	National scale assessment
90-100	A	perfectly
82-89	B	good
74-81	C	
64-73	D	satisfactory
60-63	E	
35-59	FX	unsatisfactory with possibility of retaking
0-34	F	unsatisfactory with mandatory restudy of the discipline

### CRITERIA FOR ASSESSING KNOWLEDGE AND SKILLS:

National scale	100-point scale	On a scale of ECTS
Perfectly	90 – 100	A

is applied, if the applicant:

- reproduces the main concepts of the studied topic thoroughly and in a certain sequence;
- shows full understanding of the theoretical material, applies knowledge in practice, implements in electronic form the necessary examples not only according to the manual, but also compiled independently;
- is able to apply acquired skills to solve specific professional tasks.

National scale	100-point scale	On a scale of ECTS
Good	83 – 89	B
	75 – 82	C

is applied if the student gives an answer that meets the same requirements as the "perfectly" grade, but makes some mistakes, which he corrects himself after

the teacher's remark, and individual shortcomings in the implementation of all tasks, their electronic presentation.

<b>National scale</b>	<b>100-point scale</b>	<b>On a scale of ECTS</b>
<b>Satisfactory</b>	68 – 74	D
	60 – 67	E

is applied if the student demonstrates knowledge and understanding of the main provisions of the current topic, but:

- reproduces the theoretical material not completely enough and makes mistakes in the implementation of technological methods;
- reproduces practical tasks uncertainly and makes mistakes in the design of tasks in electronic form;
- does not know how to delve deeply into the peculiarities of the use of ICT in the professional activity of a psychologist and experiences difficulties when selecting examples.

<b>National scale</b>	<b>100-point scale</b>	<b>On a scale of ECTS</b>
<b>unsatisfactory with possibility of retaking</b>	35 – 59	FX
<b>unsatisfactory with mandatory restudy of the discipline</b>	0 – 34	F

is applied if the student proves a lack of understanding of most of the studied material of the relevant topic, makes mistakes in the implementation of tasks that distort their content and appearance, operates inconsistently and uncertainly with the tools of software applications.

### **10. Methodological support**

1. The educational and methodological manual includes information technology courses for students majoring in elementary education for independent and control work. **Markova E. S. Information technologies of education: teaching method. manual. Zaporizhzhia: «Prosvita», 2012. 118 p.**

2. Electronic files with examples of didactic materials for primary school.

### **11. Recommended literature**

#### **Main**

1. Маркова Є. С. Інформаційні технології навчання: навч.-метод. посібник. Запоріжжя: «Просвіта», 2012. 118 с.

2. Морзе Н. В. Методика навчання інформатики: навч. посіб.: У 4 ч. / За ред. акад. М. І. Жалдака. К.: Навчальна книга, 2003. Ч. II: Методика навчання інформаційних технологій. 287 с.

3. Морзе Н. В. Основи інформаційно-комунікаційних технологій. Київ: Видавнича група ВНУ, 2007. 352 с.

4. Малярчук С. М. Основи інформатики у визначеннях, таблицях і схемах: Довідково-навчальний посібник / Під ред. Н. В. Олефіренко. Х.: Веста: Видавництво «Ранок», 2007. 112 с.

5. Співаковський О. В., Петухова Л. Є., Коткова В. В. Інформаційно-комунікаційні технології в початковій школі: навчально-методичний посібник для студентів напряму підготовки «Початкова освіта». Херсон: Айлант, 2012. 386 с.

6. Шакотько В. В. Методика використання ІКТ у початковій школі: навч.-метод. посіб. Київ: ТОВ Редакція «Комп'ютер», 2008. 128 с.

7. Шиман О. І. Використання сучасних інформаційних технологій: навч.- метод. посіб. 2-ге вид., допов. і переробл. Запоріжжя: «Просвіта», 2012. 240 с.

### **Subsidiary**

8. Жук Ю. О. Засоби навчання і нова парадигма освіти. Нові технології навчання: наук.-метод. зб. Київ: ІЗМН, 1997. 296 с.

9. Засоби і технології єдиного інформаційного простору/за ред. В. Ю. Бикова, Ю. О. Жука/Інститут засобів навчання АПН України. Київ: Атіка, 2004. 240 с. 10. Коваль Т. І., Сисоєва С. О., Сущенко Л. П. Підготовка викладачів вищої школи: інформаційні технології у педагогічній діяльності: навч.-метод. посіб. Київ: КНЛУ, 2009. 380 с.

11. Косинський В. І., Швець О. Ф. Сучасні інформаційні технології: навч. посіб. 2-ге вид., виправл. Київ: Знання, 2012. 318 с.

12. Машбиць Ю. І. Основи нових інформаційних технологій навчання: посіб. для вчителів/Ю. І. Машбиць та ін.; Ін-т психології ім. Г. С. Костюка АПН України; Ін-т змісту і методів навчання. Київ: 1997. 260 с.

13. Осіпа Р. А. Інформаційно-комп'ютерні технології в освіті: навч. посібник. Київ: Міленіум, 2005. 78 с.

14. Петухова Л. Є. Теоретичні основи підготовки вчителів початкових класів в умовах інформаційно-комунікаційного педагогічного середовища: монографія. Херсон: Айлант, 2007. 220 с.

15. Савченко О. Я. Дидактика початкової школи: підруч. для студ. пед. фак. Київ: Грамота, 2012. 504 с.

16. Смирнова-Трибульська Є. М. Інформаційно-комунікаційні технології в професійній діяльності вчителя: посібник для вчителів/Науковий редактор: д. пед. наук, академік АПН України, проф. М. І. Жалдак. Херсон: Видавництво «Айлант», 2007. 560с.

17. Intel® Навчання для майбутнього. К.: Видавництво «Нора-прінт», 2005. 210 с.

### **15. Information resources, including the Internet**

18. Андрієвська В. М., Олефіренко Н. В. Мультимедійні технології у початковій ланці освіти / Інформаційні технології і засоби навчання. – 2010. – №2 (16). URL: <http://www.ime.edu-ua.net/em.html>.

19. Безкоштовна інформаційна система для шкіл, дитячих садків та

інших організацій. URL: <http://klasnaocinka.com.ua>

20. Безпека дітей в Інтернеті. URL: <http://onlandia.org.ua>

21. Державний стандарт початкової освіти: від 21.02.2018. URL: <https://docs.google.com/viewerng/viewer?url=http://nus.org.ua/wp-content/uploads/2018/03/5a8de25e1504c877583228.doc>

22. Головний інформаційний сайт освітян України. URL: <http://osvita.ua/>

23. Дементієвська Н. П., Морзе Н. В. Проектування, створення та використання навчальних мультимедійних презентацій як засобу розвитку мислення учнів. URL: <http://www.nbuu.gov.ua/e-journals/ITZN/em2/content/07dnpsts.html>

24. Електронне фахове видання «Інформаційні технології і засоби навчання». URL: <http://www.ime.edu-ua.net>

25. Інформатика та інформаційно-комунікаційні технології в школі. URL: <http://www.klyaksa.net>

26. Інформаційні ресурси порталу «Нова українська школа». URL: <https://nus.org.ua/>

27. Конспекти та розробки уроків, методичні матеріали для вчителя. URL: [http://osvita.ua/school/lessons\\_summary/](http://osvita.ua/school/lessons_summary/)

28. Міжнародний дитячий творчий онлайн-конкурс «Інтернешка» з безпечного використання Інтернету та мобільного зв'язку. URL: <http://interneshka.net>

29. Навчально-методичний кабінет: сайт для педагогів, вчителів, вихователів, студентів, батьків. URL: <http://ped-kopilka.com.ua/index.htm>

30. Науково-методичний центр інформатики та інформаційних технологій навчання Запорізького ІІІО. URL: <http://www.ciit.zp.ua>

31. Офіційний сайт Міністерства освіти і науки України. URL: <http://www.mon.gov.ua>

32. Програми і методики для початкової школи. URL: <http://shkola.ostriv.in.ua/list/code-bd57d40b26>

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