



UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION

EDUCATIONAL PROGRAMME OF UNESCO IITE

**FOR TRAINING AND RETRAINING OF EDUCATIONAL PERSONNEL
IN THE FIELD OF ICT APPLICATION IN EDUCATION**



UNESCO INSTITUTE
FOR INFORMATION TECHNOLOGIES IN EDUCATION

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“Training and retraining of educators in the field of using information and communication technologies will be the main priority throughout the Institute activities in the years 2002–2007”

(Medium-Term Strategy of UNESCO IITE for 2002–2007, p. 44)



The UNESCO Institute for Information Technologies in Education (IITE) was established as an integral part of UNESCO by the General Conference of UNESCO at its 29th session. In accordance with the recommendations of the Second International UNESCO Congress on Education and Informatics, IITE has been called upon to contribute to the design and implementation of the Organization’s programmes in regard to the application of the information and communication technologies (ICTs) in education.

The mission of UNESCO IITE is to strengthen the national capacities of UNESCO Member States in the area of applying ICTs in education. UNESCO IITE considers one of its primary objectives to be the provision of training and retraining for educators in the field of using ICTs in education.

Key trends in training educators and, accordingly, main directions in the development of learning materials of the new generation are determined on the basis of the close cooperation of UNESCO IITE with international organizations and leading experts in the field of the application of ICTs in education from more than 50 UNESCO Member States.

In 2005 UNESCO IITE is completing the development of a comprehensive educational programme, which consists of training courses aimed at training and retraining of educators in various areas of applying ICTs in education.

UNESCO IITE performs its educational activities by organizing training seminars and sessions in the form of face-to-face and combined distance plus face-to-face modes of learning (on the basis of distance learning technologies using the Internet).

Goals and Objectives of the UNESCO IITE Educational Programme

- To give a general idea of contemporary trends in the field of using ICTs in education;
- To demonstrate the role and place of ICTs in attaining the goals of contemporary education;
- To sum up and distribute information about the best examples of international experience of using ICTs in education;
- To set out the main approaches to the creation of national and regional strategies and programmes for using ICTs in education;
- To demonstrate various models of learning with the use of ICTs;
- To determine the most successful ways of integrating ICTs and methods of teaching within the context of world trends in the development of education;
- To formulate the necessary pedagogical skills in using ICTs in teaching various subjects and in educational systems (for example, distance education, in training people with special needs, in primary vocational training, etc.);
- To develop the necessary skills in organizing an educational process with the use of ICTs and in managing innovative educational projects;
- To develop necessary knowledge and skills in the area of pedagogical design and creation of ICT-oriented means of education.

Target Groups

The UNESCO IITE Educational Programme is aimed at meeting the educational needs in developing the professional ICT competence of the following groups of learners, offering to:

- heads and administrators of educational systems – innovations in the field of education for the creation of national and regional strategies concerning the use of ICTs in education;
- methodologists and teachers involved in teacher training – pedagogical achievements concerned with the use of ICTs in the educational process;
- teachers of school subjects – the main approaches and principles of using ICTs in teaching;
- specialists in the application of ICTs in education – new achievements in such areas as distance education, multimedia, the Internet and telecommunications in education, etc.

The Structure and Components of the Programme

The Educational Programme of UNESCO IITE is a multilevelled system of training and professional development of educators, realized in the form of interconnected modules or courses, providing a choice of individual learning paths, considering professional specialization and interests of every learner. The Programme includes the following three levels of training:

- Level 1** – Basic, providing general computer literacy and professional competence in the use of ICTs;
- Level 2** – Specialized, or in-depth in terms of the learner's professional specialization, providing immersion into this or that topic/subject area;
- Level 3** – Strategic, providing training of administrators, managers, heads of educational systems in the field of administering innovative projects and elaborating strategies of using ICTs in education.

Chart 1. List of training courses of the UNESCO IITE Educational Programme

Code	Course title
Level 1. Basic courses	
B01	Basic ICT Literacy
B02	ICT Usage for Professional Development in Education
Level 2. Specialized courses	
S01	ICTs for Secondary Education
S02	ICTs in Technical and Vocational Education and Training
S03	ICTs in Distance Education
S04	ICTs in Education for People with Special Needs
S05	Internet in Education
S06	Multimedia in Education
S07	Digital Libraries in Education
S08	Development of Educational Personnel for Distance Education
Level 3. Strategic course	
M01	Economics and Management in the System of Distance Education

Constructing an Individual Learning Path

To successfully complete the courses offered in the framework of the UNESCO IITE Educational Programme, learners should have a level of computer literacy and skills of working with network-based information resources sufficient for independently performing practical work on a computer and in the Internet. Those who do not have sufficient computer skills are recommended to start their education with courses on the **Basic level** (B01, B02) since the courses develop the learner’s basic professional competences needed for working with ICTs. Course B01 enables the learners to improve their knowledge of using a PC, the Internet, and the most frequently used office applications. Course B02 makes it possible to prepare oneself for conceptual work with ICT tools in pedagogical and research activities as well as in self-study.

Learners who complete the courses of the basic level are recommended to take courses at the **Specialized level** (S01– S08) in one of the areas of their professional specialization. At this level the learners are expected to have the knowledge and skills necessary for the fulfilment of individual and collaborative educational tasks with the use of ICT tools. Those learners, who would like to take specialized courses without doing the ones of the basic level, could take some preliminary tests to identify their level of competence in the field of ICTs and to get an idea of potential problems that might arise while doing a specialized course.

Courses of the **Strategic level** (M01) are designed for the heads of educational institutions and for those who take decisions concerning the incorporation of ICTs into the learning process. After completing strategic level courses learners could choose any course at specialized level to get better oriented in one of the areas of practical application of ICTs in education.

Thus, the courses offered by UNESCO IITE provide an opportunity for teachers of secondary schools and higher educational institutions to improve their qualifications both in the use of ICTs in education in general and in some certain areas of the learner’s particular professional needs and individual interests. Chart 2 gives examples of building individual learning paths for different groups of learners.

Chart 2. Examples of building a study track using UNESCO IITE courses	
Learners	Approximate succession of courses
Teachers of primary school	B01 → S01 → S06
Teachers of secondary school (informatics)	B02 → S01...S07
Teachers of secondary school (subject specialists)	B01 → S01...S07
Instructors in the system of technical and vocational education	B01 → S02...S08
Teachers (professors) in a higher educational institutions	B02 → S03...S08
Tutors in distance education	S05...S08
Developers of teaching materials for school (higher educational institution)	S04...S07
Heads of educational institutions	M01→ S01...S03

Information About the Courses

Level 1. Basic courses



B01 – Basic ICT Literacy

Developers of the course: E. Khenner, et al.

The year of creation: 2004

Language: Russian

Duration: 200 hours

Learners obtain basic knowledge and skills in the area of using ICTs in education. Target audience of this course is teachers just starting to work with PCs and telecommunication technologies. Among the topics covered in the course are the basics of computer and operation system, creation and processing of computer texts, electronic spreadsheets, multimedia presentations, and also the basics of work in computer networks.

On completion of this course, the teachers will be able to use the knowledge and skills obtained for solving some pedagogical and organizational problems. The course is completed with a final test. Those who pass the test are awarded an international UNESCO IITE Certificate in Computer Literacy.



B02 – ICT Usage for Professional Development in Education

Developers of the course: A. Ishkov, M. Moiseeva,
V. Stepanov, E. Yakushina, et al.

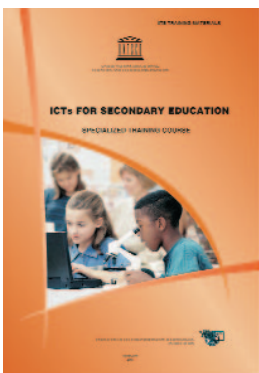
The year of creation: 2005

Language: Russian

Duration: 100 hours

The aim of this course is the further development of professional competence of educators in using ICTs. During the course study learners will get to know about the possibilities of using ICTs for self-study and continuous education; they will master the devices for effective work with information resources and search systems of the Internet and learn to use ICT tools of two-way communication. Also learners will acquire experience in participating in collaborative work with use of ICTs and learn how to develop (individually and collectively) ICT-related didactic and teaching materials and publish them in various electronic formats, including publications in the Internet.

Level 2. Specialized courses



S01 – ICTs for Secondary Education

Developers of the course: P. Kommers, M. Simmerling

The years of creation: 2001, 2002, 2005

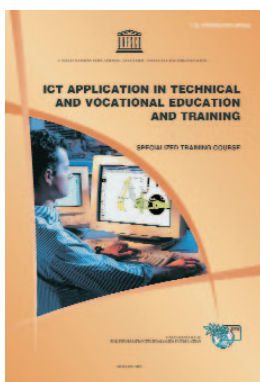
Languages: English, Russian

Duration: 72 hours

The course summarizes international experience of using ICTs in the learning process. The problems, prospects, and the most effective strategies of using ICTs in primary and secondary education are discussed and some possible solutions to further increase the potential of using ICTs in general secondary education are suggested. The course helps the learners understand the place and the role of modern ICTs in education and upbringing.

The authors demonstrate a wide range of modern methods and means of education related to ICTs. In addition to theoretical material the course includes a series of exercises and practical tasks, which help the students learn how to use various means of teaching created on the basis of ICTs and to apply some scenarios of using web-resources for creating learning communities at the level of secondary education.

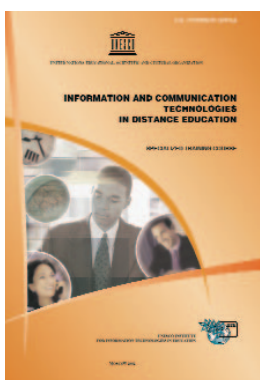
The course materials will be of interest to heads of educational institutions and regional systems of education as they clearly show the very transformation of educational space and the learning process itself from traditionally authoritarian to learner-centred, promoting the appearance of the learning community and creating conditions for continuous education throughout life. The course makes it possible to consider the ways to pedagogically effective and reasonable incorporation of ICTs into the educational process.



S02 – ICTs in Technical and Vocational Education and Training

Developer of the course: C. Chinien
The year of creation: 2004
Languages: English, Russian
Duration: 144 hours

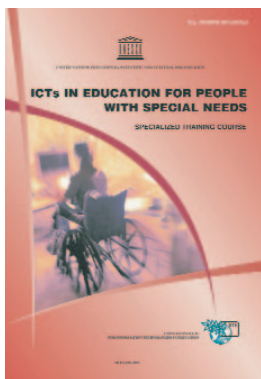
The course provides the necessary knowledge and skills, which are needed for the use of ICTs in primary vocational education. The course is designed for heads of educational institutions, developers of curricula, and also decision-makers as it includes and considers various aspects of the organization of education incorporating the ICTs, the management of the educational process, and the elaboration of further strategies.



S03 – ICTs in Distance Education

Developers of the course: M. Moore, W. Mackintosh, L. Black, et al.
The years of creation: 2002, 2005
Languages: English, Russian
Duration: 72 hours

Well-known authors, world-recognized experts in distance education give a detailed analysis of existing concepts of learning at a distance and of the role that ICTs play in the development of this form of education. Working with the course materials and additional sources of information, the learners will get a complete set of knowledge on various aspects from making strategic decisions on establishing a distance education system to the organization of a learner-centred educational process. Those aspects will include realization of the main functions of the learning process in distance education, typical procedures for setting up a system of education, a curriculum, a programme or a course using ICTs, various possibilities of using ICTs in distance learning to meet the educational needs of learners to the full, elaboration of strategies for using ICTs in distance learning at the institutional and national levels.



S04 – ICTs in Education for People with Special Needs

Developers of the course: S. Besio, N. Tokareva, et al.

The year of creation: 2005

Languages: English, Russian

Duration: 72 hours

The specialized course is concerned with the problems of applying ICT means to training people with disabilities and the organization of special training for teachers working with this category of learners. The objective of the course is to clearly and persuasively demonstrate how modern ICTs can help people with special needs get education and equal opportunities for professional development and for life in a contemporary information society. In the course of study the learners will:

- identify the main trends in ICTs application for training people with special needs in the context of new educational paradigms;
- single out a number of problems related to ICTs for training people with special needs and find ways to solve them;
- become familiar with modern technologies designed for people with special needs.



S05 – Internet in Education

Developers of the course: E. Polat, M. Moiseeva, M. Buharkina

The year of creation: 2005

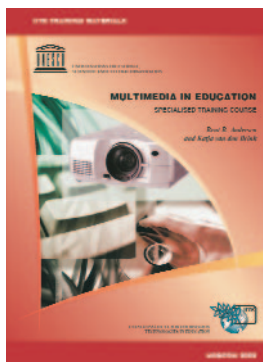
Language: Russian

Duration: 72 hours

The course contains an overall assessment of the situation regarding the use of the Internet in education: the principal guidelines on the application of the Internet information resources and services in the learning process, and institutional management, in setting up and maintaining net-based learning communities. Also the possibility of using the Internet for work with certain categories of learners who need special attention from teachers and instructors is presented.

The interrelation and mutual influence of ICTs and learner-oriented education as a new paradigm of education are demonstrated by examples taken from the real practice of educational institutions (schools and universities).

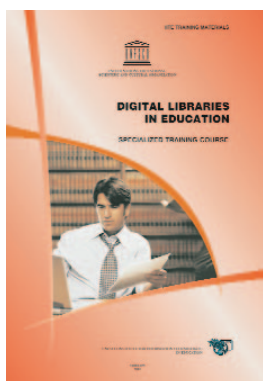
The authors emphasize the specific role of the Internet in individualization and differentiation of the learning process, in the acceleration of the process of involving new pedagogical technologies in pedagogical practice that provide collaborative learning and learners' active cognitive activities.



S06 – Multimedia in Education

Developers of the course: B. Andresen, K. van den Brink
The year of creation: 2004
Languages: English, Russian
Duration: 72 hours

The learners will acquire necessary knowledge and skills in the area of the development and application of multimedia in the educational process. Performing practical tasks, they will get to know various pedagogical scenarios of using multimedia tools for organizing the teacher's and the learner's activities and allocating to them their specific roles and functions. The course considers questions of strategic planning of the learning process as well as current problems, in the solutions of which multimedia could play a special role.



S07 – Digital Libraries in Education

Developers of the course: I. Witten, D. Bainbridge, D. Nichols
The year of creation: 2005
Languages: English, Russian
Duration: 72 hours

The course considers a variety of problems concerned with setting up digital libraries of various formats and designations and their use in the sphere of education. Students of the course will find out what a digital library is, what is called “metadata,” and in which basic formats documents are presented in digital libraries. The authors of the course will acquaint learners with existing international library standards and offer suggestions on establishing and managing a digital library and also a corporative depository of electronic documents. The learners will be given the opportunity to analyse key publications on the subject, which will add to their theoretical knowledge, and also to develop practical skills in the course of work with the electronic course book and specialized *Greenstone* software.



S08 – Development of Educational Personnel for Distance Education

Developers of the course: S. Schennikov, A. Teslinov,
A. Chernyavskaya, et al.
The year of creation: 2004
Language: Russian
Duration: 72 hours

Level 3. Strategic courses



M01 – Economics and Management in the System of Distance Education

The year of development: 2005–2006 (planned)

Language: Russian

Duration: 72 hours

In the framework of the course the learners will become familiar with legal aspects of distance education system organization, questions related to the choice of organizational and structural model, with planning educational activities, working out a budget and the search for sources of finance, building a team of experts in the area of distance education, and also conducting some market research on distance courses and programmes being introduced into the market of educational services.

The Forms of the Organization of Learning Activities

Training courses in the Educational Programme of UNESCO IITE are offered in one of the following forms:

- face-to-face learning;
- blended learning (face-to-face with elements of distance learning), which presupposes two face-to-face sessions (opening and closing sessions) and Internet-based learning in between;
- Internet-based distance learning.

Training sessions

Training sessions constitute the main component of UNESCO IITE training activities. As a rule, each session includes face-to-face trainings and distance learning sessions.

Face-to-face sessions include lectures and practical classes during which the learners of the courses acquire the necessary amount of knowledge and skills in the subject of the study, which enables them in future to work with the learning material independently and participate in the seminars during the distance learning session.

The duration of face-to-face training sessions depends on curriculum and as a rule does not exceed five days.

Distance learning sessions (held between two face-to-face sessions) are longer – from five to eight weeks, and they involve active communication process among all course participants. Distance learning sessions consist of training seminars organized in a form of electronic conferences. Students and teachers' interactions are supported by such means of communication as e-mail, file exchange, web-forums, and chats.

The learners of the courses are given the opportunity to get acquainted with practical experience in using ICTs in various educational institutions. Study visits organized by UNESCO IITE in a form of seminars and round tables give an opportunity to get to know various forms and models of training on the basis of modern technologies and to get the answers to many questions concerning the integration of new information and educational technologies into the learning process.

Seminars

Within the process of executing research and educational programmes UNESCO IITE has built the community of leading experts in the field of ICTs in education which currently unites about 160 people from more than 50 countries of the world. UNESCO IITE forms working groups of experts to hold specialized thematic seminars for the leaders of national and regional systems of education, educational establishments, as well as for trainers and teachers who are involved into wide-scale educational projects. UNESCO IITE has an experience in organizing such seminars in Central and East Europe, CIS and Baltic countries, Africa, South-Eastern Asia, and the Pacific region. Thematic seminars are organized in form of blended (face-to-face and distance) learning.

Pilot projects

In coordination with the administrative bodies of various regional and national systems of education UNESCO IITE develops and holds complex pilot projects to contribute better to integration of ICTs in education. As a rule, pilot projects include set of training activities organized jointly with representatives of the local educational institutions. Training activities include seminars and sessions for decision-makers as well as trainers and teachers. Similar regional pilot projects were successfully executed in Central, East and South-Eastern Europe, CIS and Baltic countries, Africa, and South-Eastern Asia.

Teaching and Learning Materials

For a number of years UNESCO IITE has organized various training activities, aimed at training and upgrading the qualifications of educational personnel in the field of using ICTs at different levels of education from primary school to university. In the framework of these activities there have been developed and successfully tested various teaching and learning materials, a considerable part of which was prepared with the participation of leading experts. All teaching and learning materials used in the UNESCO IITE Educational Programme are developed taking into account:

- national and international experience in using ICTs in education;
- contemporary pedagogical requirements applied to learning courses and programmes;
- specifics of adult education organization;
- possibilities of using the materials in face-to-face and distance forms of education;
- modular approach to education and building an individual educational path.

The basic set of teaching and learning materials developed by UNESCO IITE includes:

- course materials containing the main theoretical matter for self-study;
- instructions and didactic recommendations on how to use the course;
- practical guide for work with informational resources, developed to support the course;
- digital learning materials, etc.

The Information and Educational Environment

To fully meet the educational needs of learners, to develop and maintain a virtual space for the communication of learners and graduates of the UNESCO IITE courses, an information and educational environment was created on the IITE site at <http://www.iite.ru> where:

- course instructors teach distance learners or give them consultations in the periods between sessions;
- archives of all main teaching and learning materials and course papers of graduates are stored;
- there is a constantly renewed collection of references to Internet educational resources;

- new programmes and courses are announced;
- tools for online communication (forums, chats) enable all the participants of the educational process to communicate with each other.

This system is managed by the *Distance Education Platform (DEP)* developed by UNESCO IITE.

Certificates

On completing the course of study and passing the final testing, the course graduates are granted the UNESCO IITE Certificate.



What are the role and the place of modern information and communication technologies in education? What is included in the concept of “new literacy”? What are the strategies of using information technologies in education and, particularly, in education management? Is it possible to provide a system of education with such means of teaching and learning which would be adequate for the contemporary level of education and would meet the demands of present day information society? How to organize a modern information and education environment for an educational institution? Where can a teacher get information about the most successful examples of using ICTs in the educational process?

The answers to these and many other questions concerning the use of ICTs in education one can obtain by taking the UNESCO IITE courses in the framework of the Educational Programme for training, retraining, and upgrading the qualification of educational personnel in the area of ICT application in education.