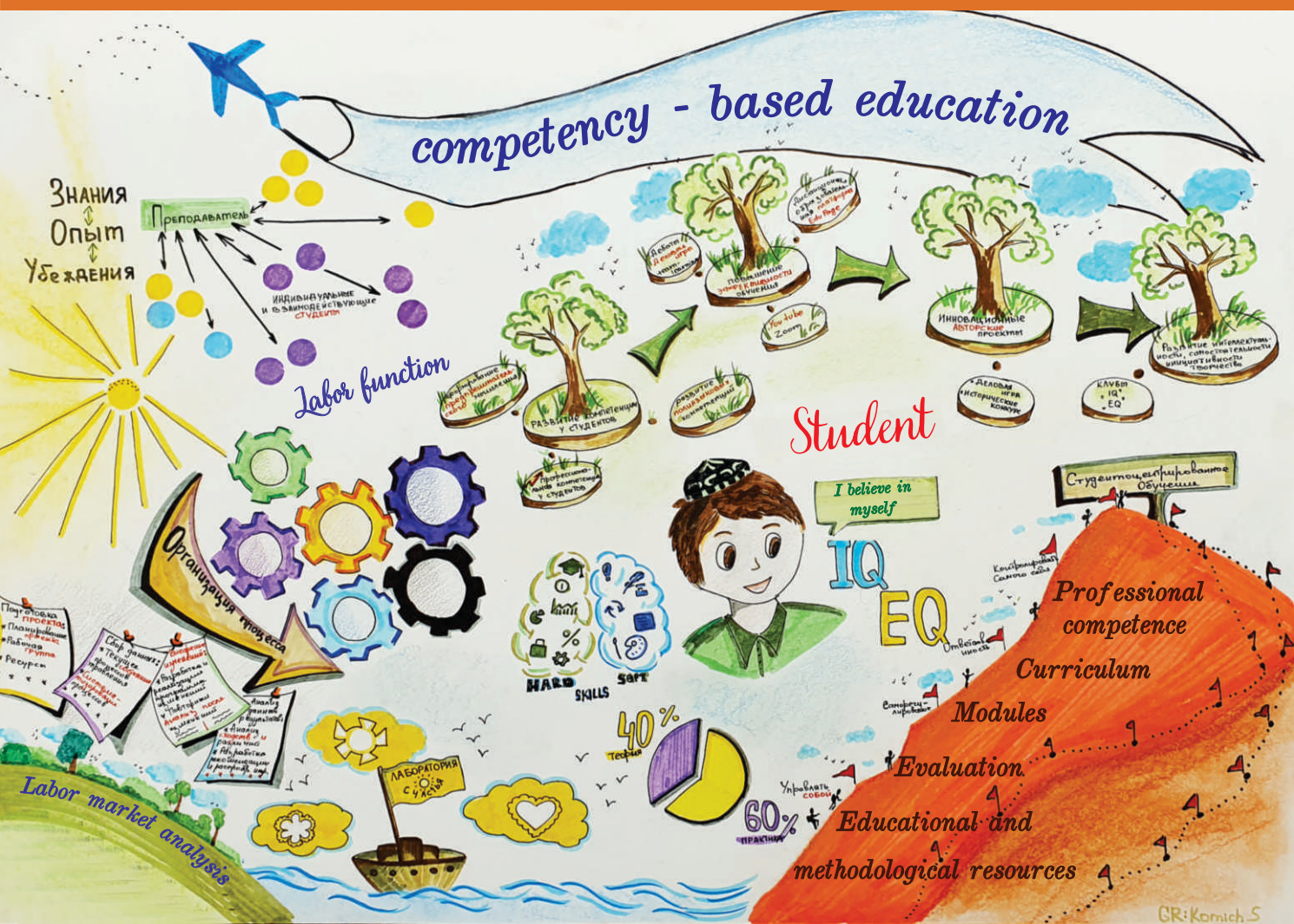


DUAL EDUCATION

MANUAL ON THE DEVELOPMENT OF EDUCATIONAL PROGRAMS BASED ON PROFESSIONAL STANDARDS IN THE TEXTILE INDUSTRY





Implemented by:



Ministry of Higher Education,
Science and Innovations
of the Republic of Uzbekistan

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MANUAL ON THE DEVELOPMENT OF EDUCATIONAL PROGRAMS BASED ON PROFESSIONAL STANDARDS IN THE TEXTILE INDUSTRY

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This manual is intended for members of educational and methodological associations established in the fields of vocational education, as well as for managerial and teaching staff of vocational education institutions.

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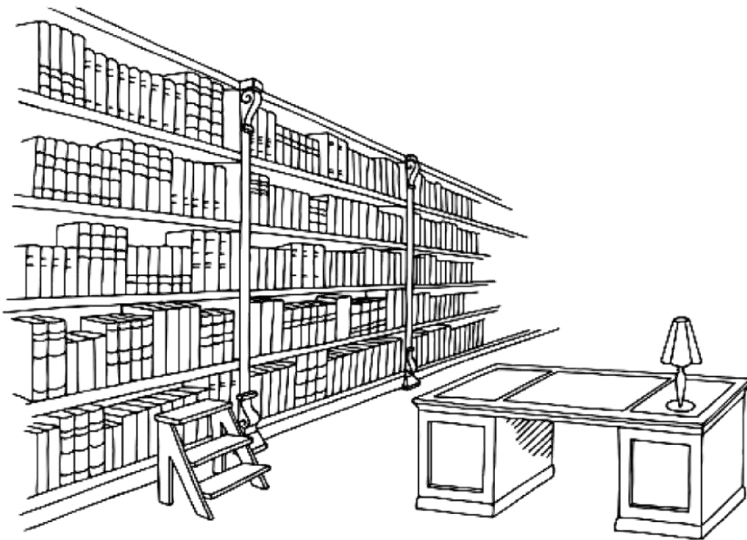


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*«Heard - forgot. Saw - remembered.
Did it myself - understood».*

Confucius



Foreword

Strengthening the capacity of vocational schools and vocational colleges to implement modified curricula relevant to the textile sector was carried out through methodological and specialized counseling of vocational education staff, including occupational masters, to develop the necessary regulatory framework (professional standards, educational standards, as well as curricula, teaching and learning materials and equipment procurement).

Methodological consultations on the development of gender-sensitive curricula for 6 different specialties, as well as professional development of teachers and industrial training masters were conducted in close cooperation with partner companies.



Thus, the TexVET Project helped to create a material, personnel and methodological environment in 15 vocational schools for the introduction of new labor market-oriented vocational courses in the format of dual education. We hope that this will allow to train qualified employees of key industrial professions who, through their professional know-how, practical and social skills and entrepreneurial understanding, will be able to contribute to increasing competitiveness and act as a catalyst for the modernization of the textile industry.

The "Guidelines for the development of educational programs based on professional standards for the textile industry" is presented to your attention. It is approved by the protocol of the meeting № 3 of March 28, 2024 of the Scientific and Pedagogical Council of the Institute for the Development of Professional Education as an experimental working document to organize the work process by industry specialists, members of educational and methodological associations developed in the fields of professional education, as well as management and teaching staff of vocational education institutions.

We express our gratitude to the authors of this Guidelines and hope that it will be further applied in the framework of the implementation of dual education in the system of vocational education in Uzbekistan.

TexVET Project Manager,
Matthias Klingenberg

List of abbreviation;

EP	Educational program
CU	Curriculum
DE	Dual education
EI	Educational institution
EMR	Educational and methodological resources
ES	Educational standard
FSE	Final state examinations
GC	General competence
GES	General education subjects
GPC	General Professional Competencies (GPC)
GPM	General professional module
ICT	Information and communication technologies
IDPE	Institute for the Development of Professional Education
ISCE	International Standard Classification For Education (2011)
ISCO	Standard Classification of Occupations (2008)
MHESI	Ministry of Higher Education, Science and Innovation
PC	Professional competence
PE	Professional education (Vocational training)
PM	Professional module
PS	Professional standard
SE	State examination

Introduction

The "Methodology for the development of basic professional educational programs based on professional standards for professions in the textile industry" (hereinafter - Methodology) was developed within the framework of the international cooperation project on "Support to the process of reform and modernization in the system of vocational education in Uzbekistan" (Tex VET), implemented by GIZ.

It ensures the implementation of component 2, implemented by the GOPA consulting group - "Development of training plans and programs for selected professions in the textile sector" and is aimed at providing methodological assistance to the developers of basic educational programs of dual education in the textile sector.

The methodology was developed in close cooperation with responsible departments of the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan, taking into account the experience of Germany and Central Asian countries in the dual education system. The methodology is prepared in accordance with the modern regulatory framework of vocational education (see Annex No. 1) and covers the main issues of development of basic professional educational programs taking into account the requirements of professional standards.

The methodology is presented in the form of algorithms. Each algorithm includes a sequence of the development steps and tables with comments on how to fill them in.

The methodology is supplemented with a model of the educational program, which gives the TVET developers a clear idea about the structure and content of the educational programs developed with the help of this methodology.

KEY TERMS GLOSSARY

Classroom lessons - theoretical and practical classes conducted with groups of students of vocational education according to the approved calendar training schedule, usually in classrooms or laboratories.



Calendar training - schedule is a document defining the sequence and alternation of training within the educational institution and practical training at the workplace (enterprise), as well as the time of midterm and final examination of students during the academic year.

Demonstration exam - a form of final examination in dual vocational education, which is conducted to determine the level of professional - activity competencies acquired by graduates, allowing them to perform professional activities in a particular field and (or) work in a particular profession or specialty in accordance with the qualification requirements of the professional standard.

Dual vocational - education is a competency-based and activity-based type of vocational education, which is implemented in two facilities - at industry enterprises, where practical training is conducted, and on the basis of an educational institution, where general vocational modules and professional modules are taught.

Competence - a given social requirement (norm) to prepare students for their effective and productive professional activity in a particular field. A set of knowledge, skills and abilities, as well as practical experience and personal attributes (behavior), allowing the graduate to perform professional tasks within the occupation or professional activity in accordance with the professional standard.

Qualification requirements - requirements to the level of general and professional competencies of a graduate of a vocational education institution to reach the relevant qualification level according to a professional standard, which must be demonstrated and assessed in order to obtain a certain qualification. Qualification requirements also include a fund of assessment tools for the demonstration exam.

Module - a complete unit of the educational program, which develops one or more professional and general competences (in accordance with the professional standard) and has the means of controlling the acquired competences of students as an output.

Instructor - a qualified staff member of the training company with practical experience in the relevant profession, as well as in production technologies and/or business processes. The instructor provides practical guidance to the trainees during the on-the-job training. He/she works closely with the vocational education institution, coordinates the training plan with the vocational school, monitors the trainee's progress during the on-the-job training, checks and signs the trainee's diaries, etc.

General competence - the capacity of a person to act effectively on the basis of practical experience, skills and knowledge in solving tasks common to many types of professional activities.

General professional competencies - the learning results achieved in the field of training (specialty) of professional education, which allow to perform generalized labor functions invariant for a certain field (sphere) of professional activity or for a group of professions.

General professional module - is a part of the basic professional educational program aimed at acquiring general and cross-cutting professional competencies that are required in different professions of the industry and reflected in the relevant professional standards for these professions.

Assessment - conditionally expressed in the form of verbal feedback, in points or figures to assess the knowledge, skills and competence of students.

The basic professional educational program - is a unified complex of basic characteristics of professional education (planned results, content, volume), organizational and pedagogical conditions and forms of assessment, which is presented in the course of the curriculum, calendar training schedule, working programs of training modules, as well as the collection of assessment tools.

Professional competence is - a person's ability to act successfully on the basis of practical experience, skills and knowledge in performing labor functions and professional tasks specific to a particular profession or type of professional activity.

A professional module is - a part of the basic professional educational program aimed at acquiring general and professional competencies within each of the main types of work activities defined in the professional standard.

Professional standard - a regulatory legal document approved by employers, which contains qualification requirements necessary for an employee to qualitatively perform a certain type of professional activity, including a certain labor function.

Independent self-study - a type of task planned within the framework of the basic professional educational program, carried out under the methodical guidance and control of a teacher / mentor, but without his/her direct participation.

Specialty - a set of necessary competencies obtained as a result of specialized training and practical experience for a certain type of activity within the framework of one profession.

Theoretical training - the process of forming knowledge, skills and abilities to the level of competence.

Curriculum - a document defining the types of training activities, training modules that form general, occupational and professional competencies, as well as practical training on the basis of the company, as well as their topics and the number of hours for a particular profession or specialty.

Teaching and learning resources - a set of teaching and learning documentation, teaching aids and means for controlling the achievement of learning outcomes, developed for teaching and learning of TVET. Teaching and learning resources include complete information required to pass the module or the professional training as a whole.

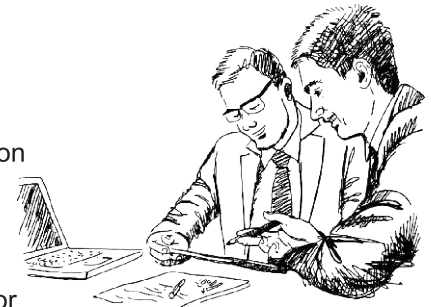
Practical training - an educational institution-based training, in which the student acquires primary general and professional competencies. It is conducted, as a rule, in training workshops/crafts or laboratories of the educational institution.

1. GENERAL ISSUES OF THE PROCESS OF DEVELOPMENT OF EP (EDUCATION PROGRAM) BASED ON PS (PROFESSIONAL STANDARD)

The development of educational programs of professional education taking into account the requirements of professional standards implies consideration of some fundamental aspects.

1.1. Employer participation in EP development

It is important to understand that the professional standard included in the National Register contains industry-wide requirements, which can be specified and distributed by a particular employer organization in accordance with the peculiarities of production of a specific enterprise and the needs of the regional labor market. Therefore, when developing EP it is not enough to use only the text of the approved PS, it is necessary to explore the requirements of the labor market, the employer with whom the educational institution directly interacts.



Thus, the development of EP taking into account the requirements of professional standards involves the creation of a working group, including representatives of employers (representatives of Sectoral Councils) in order to ensure the harmonization of all development results.

1.2. Synchronization of professional standard and EP

An important function of professional standards in the national qualification system is to link the education system with the requirements of the labor market. It is on the basis of approved professional standards that EP is shaped and updated, which makes it possible to design EP taking into account the requirements of employers recorded in professional standards.

The development of a EP based on the PS implies that the professional standard is reflected in the EP. A strong professional standard is a prerequisite for developing a high - quality EP. Ideally, the PS describes the activities of the professional and the knowledge and skills required for them in such a way that EP developers can use them without major changes. As EP is based on a professional standard, EP should not contain information that contradicts the professional standard. At the same time, EP cannot and should not contain all the information covered by the occupational standard.

EP also includes information that is not usually available in the professional standard (e.g. information on pedagogical approach in teaching).

Annex No. 2 summarizes the results of the comparison between the PS and EP, in terms of parameters such as language of the standard, outcome, areas of regulation, functions, etc.

1.3. Quality criteria for EP

A high - quality EP contains all the necessary information. The main criteria of EP quality may include the following:

- EP as an integral part of the development plan and educational program of the educational institution
- EP transparency for teachers, masters, students, parents, employers and other training partners
- Focus of EP on the development of holistic competence of students - taking into account their individual needs
- Building competence according to the principle of accumulation
- Interdisciplinary/intersubject approach to the development and implementation of EP
- Identification of learning objectives and modules (key content topics), as well as the relevance of forms and methods of teaching to learning objectives and students' needs
- Presentation of the required resources for EP implementation
- Determination of responsibility for EP implementation

The list of EP quality criteria also includes mandatory requirements regarding narration: no repeating; no long lists; use of short, clear sentences; adherence to the principle of "one paragraph - one thought"; consistency of information; use of nationally accepted terminology.

A checklist for assessing the quality criteria that characterize a quality educational program is provided in Annex No. 3.

1.4. Introduction of EP into the educational process

EPs are developed on the basis of the goals and objectives of the respective levels of vocational education.

Programs of initial vocational education

The educational process lasts 94 weeks, with a standard length of study of two years.

Programs of secondary vocational education

Since the standard duration of training is up to two years, the training process should last 22 - 94 weeks.

Programs of specialized secondary vocational education

The duration of secondary specialized vocational education programs is structured according to the degree of complexity of the specialties.

The educational process should last not less than 94 weeks with the standard duration of training not less than two years. The Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan is responsible for the content, development and implementation of EP in the relevant educational institutions of vocational education.

Curricula of general education subjects shall be aimed at comprehensive development of personality, formation of knowledge, skills, abilities, outlook and development of students' capabilities.

The curricula of professional subjects are aimed at learning the corresponding professions and specialties.

The developed qualification requirements, curricula and programs are introduced into the educational process after approval by the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan.

Introduction of EP into the educational process is carried out by educational institutions of vocational education.

There are different approaches to classifying training programs and curricula. It all depends on the objective and the educational context in which these classifications are applied. In the field of vocational education in the Republic of Uzbekistan, it is common to distinguish two main types of curricula: the basic curriculum and the standard curriculum. The difference between both types of curricula is presented in Figure 1.

HIERARCHICAL STRUCTURE OF STANDARDS AND PLANS IN VET

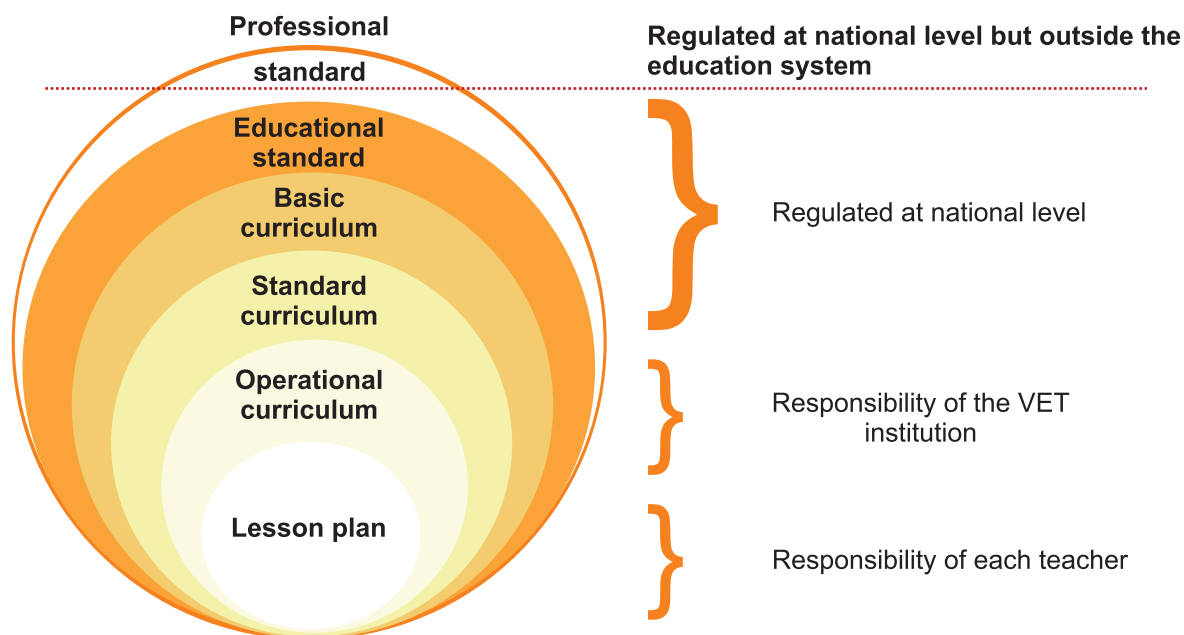


Figure 1: Hierarchical structure of standards and plans in professional education

The development of basic and model curricula, as well as standard curricula in Uzbekistan are regulated at the level of the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan. In addition, there are also operational curricula, which are developed by vocational education institutions on the basis of standard curricula.

1.5. EP structure for dual education

It is known that one of the key factors in matching supply and demand in the labor market is an integrated approach to the training and retraining of personnel meeting the requirements of the modern labor market. With this in mind, educational institutions are supposed to train specialists capable to effectively acquire the required skills, knowledge and competencies, and to independently adapt to the rapidly evolving technologies and, consequently, to the constantly changing qualification requirements for the professions of the 21st century.

In this context, the most important tasks of vocational education institutions, including those in the textile sector, are to organize the process of training and qualifications assessment based on completely new forms and methods; to develop and implement new educational programs and curricula based on professional standards and competency-based approach, and in accordance with the National Qualifications Framework, Sectoral Qualifications Framework and International Standard Classifications of Employment (ISQE), and to educate and train students in the textile sector.

The structure of EP based on professional standards and competency-based approach includes:

- Title page (program title, qualification level (according to the National Qualifications Framework (NQF))
- Occupation code (RUZ)
- Qualification name, occupation code (International Standard Classification of Education ISCE-08)
- Occupation code (International Standard Classification of Occupations ISCO-11)
- Information about the developers
- Introduction
- Table of contents
- List of acronyms and key terms
- Context of dual vocational education implementation on the basis of the educational program
- General information about the EP (the section describes the purpose and main characteristics of the educational program, as well as the conditions of its implementation)
- General learning outcomes of the educational program (the section presents the expected results of the implementation of the educational program in the form of general, common professional and professional competencies derived from the work functions and the action of the professional standard)
- Structure of the curriculum (the chapter outlines the general structure of the curriculum, which is an integral part of the educational program, briefly describes the purpose and content of general professional modules, and comments on the breakdown of the total teaching time by blocks of the curriculum)
- Standard curriculum
- Terms of enrollment of students in the program
- Principles and methods of learning (the chapter describes the general principles applied to the organization of the dual education process based on the acquisition of professional-activity competencies)
- Assessment (the chapter discusses some key issues related to the assessment of learning outcomes in dual vocational education)
- General vocational modules (table outlines: place of the module in the training block, number of the module in the curriculum, allocated hours, recommended period and frequency of teaching, module requirements, overall module objective, related modules, competencies to be acquired, brief description of the content, formative competencies, learning process, learning assessment, language of teaching, recommended literature, internet resources)
- Professional modules (described by qualifications, the structure is the same as in the general professional module, additionally, a list of sample topics for distributing hours at the company / enterprise by each of these modules is provided)

- Annexes (standard syllabus, standard plan of on - the - job training)

The experimental layout of EP based on professional standards and competency - based approach is proposed in Annex 5.

2. EP DEVELOPMENT METHODOLOGY

Experts in the field of EP development and implementation suggest a certain sequence of steps in EP development [2, 3, 9].

The number of steps varies; in the context of dual training of specialists it is preferable to adopt the following main stages of EP development on the basis of PS according to Scheme 2:

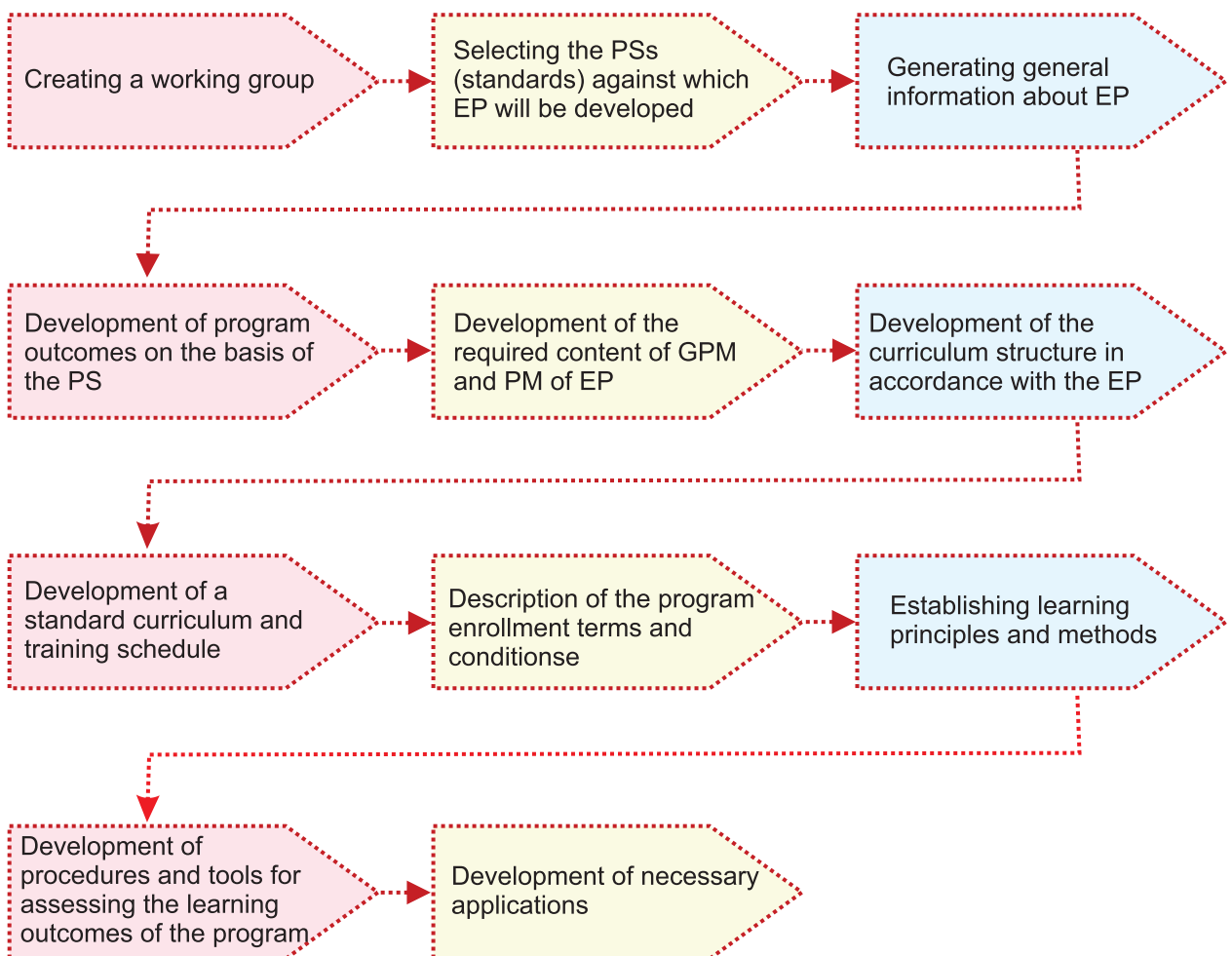


Figure 2: Main stages of EP development based on a professional standard.

2.1. Establishment of a working group

The development of EP based on a professional standard begins with the establishment of a working group. The composition of the working group on the development of educational programs is approved by the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan.

The organization of the development of educational programs and coordination of this process is carried out by the Institute for the Development of Professional Education, a specialized unit of the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan.

In order to improve the relevancy and quality of educational programs based on professional standards, the working group should include (by agreement) representatives of educational institutions of VET institutions and employers' organizations, including representatives of sectoral councils.

The effective operation of the working group requires:

- Developing a work plan for the working group
- Organizing and conduct training seminars for members of working groups (the content of the seminars should ensure that group members understand the structure of the PS, the algorithm of the upcoming work on EP development based on the requirements of the PS). Annex No. 6 contains sample topics and objectives for training seminars to be held for the working groups

The main tasks to be solved by the working group being set up are as follows:

- Determining of the qualification level (according to the NQF) for the EP to be developed, elaboration of requirements for the learning results of the EP development
- Defining the structure of the educational program, the composition of modules, practices and the results of their implementation
- Definition of the program content
- Definition of general learning outcomes of the educational program in the form of general, common professional and vocational competencies derived from the work functions and actions in the PS
- Development of the curriculum structure in accordance with the educational program
- Development of programs of general professional and occupational modules and practical training
- Development of a model curriculum and an approximate plan of on-the-job training
- Development of requirements for assessment tools for interim and final certification

2.2. Selecting the professional standard(s) against which the EP will be developed

At this stage, material will be collected to complete the cover sheet and analyze occupational standards by professions as a basis for EP development.

The focus of the PS analysis should be focused on the following aspects:

- Title of the professions, code (ISCO and ISCE) and the title of the qualification to be obtained
- Is there a professional standard with this title in the register of professional standards?
- Are there professional standards with a different name containing requirements for the chosen profession? (The qualification of a profession taught in an education program may correspond to several professional standards)
- List of required competencies (for each labor function) and their classification as GC, GPCor PC (subject of analysis: comprehensibility, specificity, compliance with the qualification level and occupational profile). Verification of the conformity of competences with the level of qualification assigned requires joint consultations between the VET specialists and employers. Harmonization of the correspondence of the profession to the qualification level is a critical factor for the EP to meet the expectations of employers)
- Compliance with the professional occupation (competencies specified in the PS), qualification level (only a certain part of the professional standard can correspond to the qualification taught within the educational programs, i.e. labor functions/tasks or a part of them)

- Performance standard of labor functions/performance standard. Analysis of the Performance Standard is important for the development of assessment materials for exams / State final attestation (SFA), as this standard answers the question "how will we know that the graduate has acquired the required competencies?")
- List of equipment, facilities and tools required to perform the described labor functions - conclusions on the preferred place of training (this is important for the subsequent decision on the place of training -which competences are feasible (or even necessary) to be trained on the basis of companies, and which competences are better to be trained in vocational education institution workshops)
- As EP is based on a professional standard, EP should not contain information that contradicts the professional standard. At the same time, EP cannot and should not contain all the information of a professional standard. In addition, EP requires information that is not usually found in the professional standard (e.g., information on pedagogical approach to teaching and learning)



Determining the title of an occupation for EP development can be done by analyzing the contents of the table below

Table №1

Classifier of Basic Positions of Employees and Occupations of Workers (Classificatory of basic positions of employees and professions of workers (CBPEPW-2020))	Classifier of training directions, professions and specialties of vocational education	
Name of positions of employees and professions of workers Occupational code (ISCO - 11)	Occupational title (code of occupation RUz and ISCED - 08)	Qualifications
Seamstress (8153)	Seamstress (RUz: 30720707) (ISCED - 08: 354)	Seamstress for men's clothing Seamstress for women's clothing Seamstress for children's clothes Outerwear seamstress

As a rule, a certain occupation or position of employees corresponds to a separate professional standard with the same name. In this case, it is the PS for the " Seamstress" profession, registered by the Ministry of Employment and Poverty Reduction under the registration number C02.001.2129/I-2023. "Seamstress".

The title of EP is given taking into account the purpose of the program, as well as the name of the profession, its code based on the Classification of training fields, professions and specialties of vocational education. The analysis of the compliance of the profession (competencies specified in the PS) with the qualification level shows that only a certain part of the professional standard can correspond to the qualification being taught within the framework of the educational program.

The results of the analysis of the development group at this step can be formalized in the form of the supplementary Table 2.

Table № 2

Program Title	Job title	Qualification level according to NQF	Name of selected qualifications	Selected PS (one or more)
Program of dual education of primary vocational education	Seamstress	3	Seamstress of women's clothing Seamstress for children's clothing	PS for the profession of "seamstress"

Materials in Table No.1 and Table No.2 will be later included in the cover page and in the explanatory note in the program (see Annex No.5)

2.3. Generating general information about the EP

At this stage, the goal and main characteristics of the educational program as well as the terms and conditions of its implementation are determined.

As a rule, the following issues shall be covered:

- Purpose of the document
- Employment prospects (where graduates can successfully find a job, start their own business)
- Opportunities to continue professional career and educational trajectory (vertical integration and continuation of studies)
- Form of EP implementation
- Language of instruction
- Information about the PS, which is the basis for EP development
- Information on the methodology used to develop EP
- Proposals to ensure sustainability of the program implementation (principles implemented to ensure sustainability of the program)

2.4. Development of program outcomes based on PS

The chapter presents the expected outcomes of the educational program implementation in the form of general, common professional and occupational competencies derived from work functions and actions of the professional standard.

The definition of learning outcomes is a fundamental process for all subsequent stages of EP development. A clear definition of learning outcomes predetermines the required learning content. Learning outcomes should be defined based on the specialist's job functions, as in modern educational programs learning outcomes are defined as competencies.

Development of educational program outcomes taking into account the PS should be based on the alignment of professional standards to educational standards. In the process of comparing the requirements of EP and PS, it is necessary to take into account the differences in their terminology related to the object of description.

Table 3 shows the comparison of PS and EP terms.

Table № 3

Key terminology of the professional standard	Key terminology of the main professional educational programs
<ul style="list-style-type: none"> • Generalized labor function • Labor function • Labor action • Skill • Knowledge 	<ul style="list-style-type: none"> • Type of activity • Professional competence • Practical experience • Skill • Knowledge

Definition of general competencies.

In addition to learning outcomes directly related to the profession, EP also defines learning results related to personal competencies of students. Personal competences allow them to act successfully on the basis of practical experience, skills and knowledge in solving a wide range of professional and life tasks. General competences are also called "transversal competences", and from the point of view of their formation through different subjects in educational institutions - "interdisciplinary competences".

However, the general competences are not set out in the professional standards of Uzbekistan, as it is considered that these competences are mainly established at the secondary education level, which, in turn, implies that the graduate has general competences corresponding to this level. At the same time, for each labor function in the professional standard, in addition to labor actions, skills and knowledge, additional characteristics may be given, which in some cases can be used to supplement the list of general competencies.

When compiling the list of general competences, it is advisable to be guided by the "List of key competences recommended by the Council of the European Union within the concept of lifelong learning" (see Annex 6), highlighting the priorities in the formation of general competences provided for by the educational standards for secondary education.



List of general competencies that the graduate should have upon completion of the educational program:

- Analytical thinking
- Creative approach in problem solving
- Teamwork
- Effective and constructive communication (including in foreign languages)
- Ability to search, analyze and process information
- Competent behavior in social networks
- Capability to use information and communication technologies
- Leadership skills, and proactivity
- Ability to resolve conflict situations
- Civic responsibility
- Entrepreneurial mindset and skills

Determination of general professional competencies

General professional competences are the graduate's ability to act successfully on the basis of practical experience, skills and knowledge in solving a wide range of tasks common to a group of different professions.

General professional competencies (GPC) directly related to the profession should be determined on the basis of generalized labor functions set out in the professional standard. In case of insufficient information in the PS, it is also necessary to pay attention to other documents regulating qualification requirements for the relevant job.

For example, the list of GPC that a graduate of textile and/or technical professions should have at the end of the educational program looks as follows:

- Search data necessary for effective fulfillment of professional tasks
- Understand the essence and social significance of the future profession, show a stable interest in it
- Organize the workplace in accordance with safety requirements
- Analyze the technical task, carry out current and final quality control, eliminate defects
- Use technical, technological and regulatory documentation
- Comply with technical specifications and requirements to the quality of work performance
- Observe safety rules when performing technological operations
- Demonstrate environmentally responsible behavior at home and in production, including the timely sorting and delivery of waste in accordance with the requirements and internal regulations of the enterprise
- Participate in collective elimination of the causes of emergency situations in the area of professional responsibility
- Be diligent, accurate, have the ability of constant concentration and tendency to perform monotonous and monotonous actions
- Provide first aid in case of accidents

A list of professional competencies that a graduate should have upon completion of the EP

The planned learning outcomes list the labor functions contained in the professional standard, indicating the corresponding labor actions, necessary knowledge and skills. Competencies directly related to the profession should be defined based on the labor functions set out in the PS. Table 4 shows the structure of the description of labor functions and related information contained in the PS.

Table № 4

Structure of description of labor functions and related details in the PS

Information categories		
Generalized job functions	Job functions	Labor actions Required skills Required knowledge



Formulations of competencies related to the "Sewing" profession

Table № 5

Professional standard			EP
Generalized labor function	Labor function	Required skills (selectively)	References of competencies (students' skills)
Technological treatment of the product	Product tailoring	Ability to perform quality processing of components	<ul style="list-style-type: none"> • Perform step-by-step processing and assembly of sewing parts of various assortment of garments • Perform manual work on sewing parts • Perform nodal monitoring of the quality of the sewing product • Prevent and eliminate defects in sewing processing

Professional modules are defined separately for each qualification of the educational program. The first step in developing vocational modules is to define the learning objectives. After defining the learning objectives, the topics to be taught and how long they should be taught in order to achieve the given learning outcome are decided. The number and hours allocated to the topics to be taught depend on the level of complexity of the learning outcome.



Example of the expected outcomes of the educational program in the form of Pcs. Qualification "Women's clothing seamstress"

PM-1.1: Work on sewing equipment and equipment for wet - heat treatment (WHT) (on sewing women's clothing)

PC 1.1 Select tools and devices necessary for the fulfillment of the technical task.

PC 1.2 Select raw materials and auxiliary materials in accordance with the purpose of a textile product.

PC 1.3 Check the availability and completeness of cut parts, accessories and semi-finished products in accordance with the sketch.

PC 1.4 Prepare a sewing machine and equipment for wet-heat treatment (WHT) for work.

PC 1.5 Adjust and set up equipment for specific operations and materials.

PC 1.6 Troubleshoot minor malfunctions of technological equipment. Clean and lubricate sewing machines and devices.

2.5. Development of the required content of general professional and occupational modules of EP

The most time - consuming stage of EP development is the preparation of programs of general education and professional modules included in the model curriculum.

General professional and occupational modules of competence - oriented educational programs will be designed in the form of the EP layout form No.3 (see Annex No. 5).

The table should reflect the following attributes that are specific to the module:

- Place of the module in the block Curriculum (CU)
- Module name (serial number in the CU);
- Allocated hours
- Recommended period and frequency of teaching
- Module requirements (compulsory or elective)
- Overall aim of the module

Competences to be acquired:

- Skills
- Knowledge
- Practical experience
- Brief description of the content
- Competencies

Learning process:

- Allocation of training time by place of study
- Methodological recommendations for teachers

Performance evaluation:

- Recommended assessment methods
- Notes for appraisers
- Teaching language
- Recommended literature, internet resources

In addition to the above information, programs of professional modules include a list of sample topics with the recommended distribution of hours at the enterprise/organization according to the module.



Sample program of professional module of initial vocational training on "Seamstress" (qualification - seamstress of children's clothes)

11.2.1. PM - 2.1. Work on sewing equipment and equipment for wet - heat treatment (WHT) (for sewing children's clothes)

Block in the Curriculum (CU)	GES (General Education Subjects)	GP (general professional)	P (professional) +	Elective
Module title (+ ID number in the Curriculum (CU))	PM 2.1. Work on sewing equipment and equipment for wet - heat treatment (for sewing children's clothes)			
Hours allocated	184 hrs			
Recommended period and frequency of teaching	Semester 1	Semester 2	Semester 3 +	Semester 4 + 3rd semester 2 times a week 4th semester times a week
Module requirements	Compulsory +			Elective
Overall objective of the module	<i>Familiarization with types of sewing equipment and mastering the techniques of working on sewing machines and equipment for wet - heat treatment</i>			
Related modules (+ code according to the CU)	GPM 2.1.1 Introduction to the profession and DVE GPM 2.1.2 Occupational Health and Safety			

Modul	Acquired competencies	Brief description of content	Competencies
Work on sewing machines and equipment for wet - heat treatment	<p>The graduate is able to:</p> <ul style="list-style-type: none"> - Comply with the requirements of safe labor at workplaces and safety rules in workshops -.... <p>A graduate knows:</p> <ul style="list-style-type: none"> - Rules of safe labor in performing various types of work and safety rules - Types of sewing equipment - <p>The graduate has practical experience in:</p> <ul style="list-style-type: none"> - Work on various sewing equipment with the use of small mechanization means -..... 	<ul style="list-style-type: none"> - Classification and types of sewing equipment - Organization of the work-place for machine work - Safety precautions when working on a sewing machine and equipment for wet - heat treatment - ... 	GC 1 - GC 11 GPC 1 - GPC 12 PC 4 - PC 4.6

Training process	Allocation of instructional time by educational site:		
	Classes in EI: 22% of time (40 hours)	In - company classes: 78% of the time (144 hours)	Self-study: 35% of time (66 hours)
<p>Methodological guidelines for instructors: Teachers may use the following methods: 1. Watching and discussing instructional videos on the construction and operation of sewing equipment and Wet-Wheat Processing Equipment 2. Video and demonstration of techniques of technological operations and assembly processing of sewing parts - ...</p>			
Performance appraisal	<p>Recommended evaluation methods: It is recommended to use the following methods when assessing the competencies of the learner: - <i>practical tasks</i> - <i>demonstration of skills</i> -</p>		
	<p>Notes for appraisers: <i>It is important to conduct interrelated, integrated assessment of competencies rather than individual knowledge and skills, which are components of competencies.</i></p>		

Language of instruction

Depending on the language of instruction established for a given EI

Recommended readings

1. *Sulaymanova J. N. "Manual on vocational training for seamstresses". 2020. - 298 p.*

Web resources

<https://www.youtube.com/watch?v=apQFKnByfgE&pp> - Namlab isitib ishlov berish presslari

2.6. Developing the structure of the curriculum in accordance with the EP

At this stage, the general structure of the curriculum, which is an integral part of the educational program, shall be developed. The purpose and content of modules are briefly described, and the breakdown of the total amount of teaching time by curriculum blocks is documented.

It is advisable to form the general structure of EP as Form No. 1 of EP layout (see Annex No. 5), which shows the distribution of the total fund of teaching time between the various components of the training program.

Further, the general content of the blocks is described, indicating the relevance, focus and orientation of the modules included in it.



**An example of the general structure of the educational program on "Seamstress"
(for a two - year educational program with a cumulative teaching time of 3088
teaching hours)**

Table № 6

Block number and title	Module Description	Duration of training (in hours)
Block I: General Education Subjects (GES)		1100
Block II: General Professional Modules (GPM)	Modules related to Introduction to Textile Professions and DVE, Occupational Health and Safety (OHS), Environmental Health, Technical and Internal Communication in Learning Enterprises, Quality Assurance and Business and Management (Entrepreneurship) Fundamentals	188
Block III: Professional modules (PM)	Modules related to the performance of basic labor functions and actions in accordance with the PS for the training profession	1660
	Hours available to EI for VE	80
	SE and SFA	60
	Totally	3088

2.7. Development of a standard curriculum and calendar training schedule

One of the main documents of EP is a model curriculum. The curriculum determines the scope, labor intensity, sequence and distribution of subjects, courses, disciplines (modules), practices and other types of learning activities of students, as well as the types of performance appraisal.


The development of educational content should be limited to what is necessary for achieving the specified learning outcomes. Development of a standard curriculum is based on the Form No. 3 (see Annex No. 5).



An example of a standard curriculum for the "Seamstress" profession is given in Table 7.

Table № 7

Standard curriculum

Profession	Qualification	Period of study	Form of study	QR code
30720707 - Seamstress	1. Seamstress for women's clothing; 2. Children's clothing seamstress	2 years	Dual 2023	

Module block	Code	Module name and class activity type (selective)	Period of study (semester)	Study hours		Self - study
				Edu- cation	Enter- prise	
1 - Block	GPM	General education subjects	S1, S2, S3- S4	1100	0	385
2 - Block	GPM 2.1	General professional modules				
General professional modules	GPM 2.1.1	Introduction to the profession and to DVE	S1 - S2	32	0,5*	11
	GPM 2.1.2	Occupational safety and health	S1 - S2	24	0,5*	8
	...					
	GPM 2.1.6	Business basics in the fashion industry	S3 - S4	60	0,5*	21
	GPM	Practical training General professional module at the enterprise	S1 - S2		18	
		Total		188	18	66
Qualifications				460	1224	
		1. Women's clothing seamstress		230	612	296
3 - Block	PM 1	Professional modules		230	600	292

Professional modules	PM - 1.1	Work on sewing equipment and equipment for wet - heat treatment (for sewing women's clothing)	S1 - S2	40	144	66
	PM - 1.2	Processing technology of sewing - knitted garments	S2 - S3	90	306	139
	PM - 1.3	Design and modeling	S2 - S3	100	150	88

Module block	Code	Module name and class activity type (selective)	Period of study (semester)	Study hours		Self - study
				Edu- cation	Enter- prise	
		SE	S3		12	4
		2. Children's clothing seamstress		230	612	296
3 - Block	PM 2	Professional modules		230	600	292
Professional modules	Professional modules	Work on sewing equipment and equipment for wet - heat treatment (for sewing children's clothes)	S3 - S4	40	144	66

		SE	S4		12	4
4 - Block		FSE	S4		36	13
		Hours at EI	S1, S2, S3, S4	80		28
		Total		1828	1260	1081
		Overall:		3088		

* These 18 training hours correspond to 3 days of orientation practice of trainees at enterprises. It is recommended to include them in the GPM Introduction in dual education.

Development of the calendar training schedule

The calendar training schedule in the dual vocational education according to the "Regulations on the organization of dual education in the system of vocational education" envisages that students, as a rule, spend at least two days a week in a vocational educational institution on the theoretical, educational and practical part of the educational program. And the remaining days for the practical part associated with production activities - at the company's premises.

The calendar training schedule should be drawn up in agreement with the employer.

The accumulated experience in the implementation of dual education in the system of vocational education indicates the feasibility of the following variants of the calendar training schedule:

- 1-variant: 3 days in the educational institution 3 days at the company
- 2-variant: 2 days in the educational institution 4 days at the company

The educational process can be organized on a weekly basis. In this case:

- One week in the educational institution and three weeks at the enterprise
- Three weeks at the educational institution and five weeks at the enterprise

2.8. Description of conditions for enrollment of students in the program

The chapter describes the legal and regulatory requirements for admission / enrollment of students in the program.

2.9. Establishing learning principles and methods

General principles applied to the organization of the process of dual education based on the acquisition of professional - activity competencies are formed at this step.

Specifically, the following aspects are set out separately:

- The main didactic principles for achieving the goals and objectives of EP
- Principles applied in the dual vocational education system

2.10. Development of procedures and tools for assessing the learning outcomes of the program

Key issues related to the assessment of learning outcomes in dual vocational education are discussed at this stage.

The education program promotes a standards-based approach to assessing and reporting on student learning outcomes. This means that learning outcomes for each module must be achieved at the level of minimum qualification requirements (according to the professional standard).

In the format of dual vocational education, three main forms of assessment are distinguished:

- Current assessment - assessment of students' progress in the learning process
- Interim assessment - assessment of learning outcomes at the end of the professional module
- Final assessment - qualification demonstration exam at the end of the course

Progress of students in the learning process (ongoing assessment) is evaluated on the basis of practical training and production tasks (documented in the diary of the student). Current assessment also includes quizzes to verify the knowledge, skills and abilities acquired by students in classes at the educational institution. Tasks and tests for current assessment should reflect the material covered in the moment of (content of EP) and check the degree of knowledge of the relevant (general and professional) competencies of students. Current assessment should provide feedback on the results of assessment. If necessary, a system of grading using standards that exceed the minimum standards can be applied.

The trainee's diary has special significance in this context, as it is a form of evidence of the trainee's training in the company, reflecting his or her daily work. It is signed by both the trainee and his/her mentor at the enterprise. The fund of assessment tools for ongoing monitoring is developed by teachers of the educational institution (with the participation of mentors).

The inventory of assessment tools consists of three parts:

- Assessment tools for ongoing control (materials of the teacher, master of industrial training, in-company trainer at work to verify the mastery of learning material by students, including initial control, control in practical classes, in the performance of laboratory work, assignments of training practice, etc.)
- Evaluation means of interim certification for examinations and credits for academic disciplines (if any), practices, professional modules (if any)
- Assessment tools for qualification (final) exams

The final ("graduation") examination covers the whole range of learning outcomes achieved by the trainees during their training both in companies and in the educational institution.

The purpose of the final examination is to determine whether the trainee has acquired the ability to act professionally in accordance with the qualification requirements of the vocational qualification program. The final examination should cover both the competences acquired during the training at the educational institution and the competences acquired during on - the - job training in a company.

For example, the final examination for the profession "seamstress" (qualification - seamstress of women's clothing) may include the following examination areas or may be changed according to the employer's proposal:

- "Work on sewing equipment and Equipment for wet-heat treatment (seamstress of women's clothing)"
- "Processing technology of sewing and knitted garments (seamstress of women's clothing)"
- "Designing and modeling of garments (seamstress of women's clothing)"

The following principles should also guide the development of procedures and means of assessing learning outcomes:

- Qualification should be assessed as a whole during performance of activities in real conditions or in a situation maximally close to such conditions
- Assessment of competencies implies the statement of the ability of students to apply knowledge and skills, to carry out activities necessary to obtain a certain result (product) at the workplace

The objectivity of qualification assessment can be achieved:

- Through the involvement of independent experts
- By standardizing the conditions and procedure of evaluation
- Through clearly defined indicators and criteria relevant to the quality of professional performance

Based on the obtained data of learning outcomes, it is possible to generate section no. 13 - "Evaluation" (see Annex No. 5).

2.11. Developing the necessary applications

The following materials may be attached to the EP:

- Professional standard (or key extracts from several Pss)
- Samples of model DPE contracts
- Sample calendar training schedule
- Sample training plan at the enterprise
- Sample of a student's diary of practical in - company training

3. REVIEW OF EP DEVELOPED ON THE BASIS OF A PROFESSIONAL STANDARD

A mandatory stage that completes the development of any EP is its expert review. Drafts of new EPs are submitted for review to independent experts from both vocational education and industry.

Independent experts can act as:

- Methodologists and teachers of special disciplines of educational institutions
- Specialists from the Institute for the Development of Vocational Education
- Specialists from the industry, who are best able to assess the compliance of EP learning outcomes with the requirements of the PS in practical terms
- Representatives of the Industry Council and / or representatives of an industry association (UZTEKSTILPROM) or other business associations



After receiving reviews and revisions, EPs are subject to approval by the responsible departmental body (Ministry of Higher Education, Science and Innovation), which issues an order to pilot the programs in selected educational institutions within the vocational education system. During the piloting process, students of educational institutions can give feedback on their education under the new EP.

After piloting, new EPs are adapted to specific conditions to be implemented locally (in particular, taking into account the requirements and capabilities of industry partners).

4. METHODOLOGICAL RECOMMENDATIONS FOR EP IMPLEMENTATION

Centralized standardized EPs cannot take into account the institutions' specific priorities, the experience of teachers and the conditions of the particular educational institutions on the ground. In addition, with up to 70% of learning taking place in enterprise-based environments, EPs need to be flexible enough to take account of the specificities of work-based learning and the specific needs of partner enterprises. This flexibility is ensured through EP work plans and programs.



The 'art' here lies in balancing the need for standardized vocational education outcomes (in the form of knowledge, skills and competencies) with the need to be flexible in terms of content, timetable and teaching methods.

In addition, reaching consensus on the educational program and curriculum increases the level of acceptance by the teaching staff and their feasibility in the field, which promotes team development and cooperation between the management, teachers and master trainers in the educational institution. Since the joint development and sharing of materials, harmonizing commitments and setting common goals increase the responsibility and satisfaction of the teaching staff with their activities, as well as the quality of the learning process as a whole. Therefore, work on EP is closely linked to the development of teaching skills and is a quality management tool for each educational institution and the vocational education system as a whole

At the stage of the scheduled start-up of a new MPEP, the work of the academic staff starts with analyzing the actual situation in the educational institution concerning the learning process as a whole for the professions. Therefore, the first step is to analyze the framework conditions and resources.

This includes human resources, teaching and learning resources, material and technical resources of the educational institution, labor market and economic information about the region, availability of "intangible assets" such as cooperation agreements with the textile companies in the region, former graduates who have established their professional careers in the textile sector, etc. Such an "inventory" also includes the strength of the educational institution, such as the professional competence and experience of the faculty or trusted cooperation with enterprises. The result of such an inventory can be presented as a one-page SWOT analysis for the educational institution.

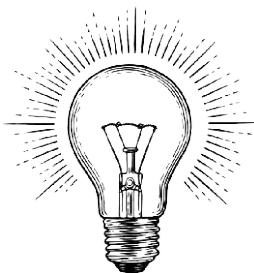


The next step in the inception process is to analyze resource needs and set up realistic goals for the new / updated program. The inception phase is also an opportunity to involve all colleagues in the work to update the curriculum and thus meet the need for it to be interdisciplinary/ inter - subject specific. This is particularly true for topics such as, for example, "environmental / climate protection", "occupational safety", "digitalization and the use of ICT", "vocational and foreign language application", "career guidance", etc.

It is possible that even at the planning stage, the need for professional development of instructors and / or masters of industrial training, in - company trainer becomes obvious, if the implementation of an updated educational program will require new knowledge, skills and competencies, the presence of which should not be taken for granted. Here the responsibility lies with the management of the educational institution.

Apart from updating the training content and developing specific activities, this stage also includes joint development of teaching and learning resources for classes. The creation of such an EMR base at the level of the educational institution is beneficial for all instructors and apprentices involved in the learning process for the new / updated program.

The development of EMRs (especially when they have to reflect the latest technology developments in the profession and also include e-learning materials for distance learning) is a very resource-intensive and multidimensional process. Moreover, it requires a wide range of different skills, knowledge and competencies - among others, technical-technological, methodological, pedagogical, information - technological, and even graphical and art skills. Therefore, it is recommended to establish working groups of specialists from different backgrounds to develop or revise existing EMRs together.



The creation of educational programs and curricula at the level of educational institution is a continuous process of development, implementation and evaluation, which imposes high demands on the working groups of educational institutions and departments. It is about managing a holistic, integrated process of an educational institution. The guiding principle for the designers should be competence - based learning with the aim of achieving professional competence among students (in accordance with the qualification requirements established in the PS).

The learning process involves intentional leadership in mastering cross - curricular links. Interdisciplinary links can be subdivided into links between "Knowledge, abilities, skills" and competencies specific to each discipline or each subject (subject, module, course), and links between NAS and competencies common to different subjects (disciplines, modules, courses).

In the first case, the necessary links are disclosed and established within each discipline (each subject, module, course). In the second case, it is possible to make a division between academic subjects (disciplines, modules, courses). Thus, NAS of educational work (work with books, outlining, presentation of results, etc.), universal learning competencies, which are formed by all instructors, but in various academic subjects (disciplines, modules, courses) have more or less time dedicated to these competencies. At the same time, the content of related subjects (disciplines, modules, courses) is distributed by years of education in such a way that the information from one subject (module, course), necessary for the conscious mastering of the other, is mostly given in advance.

The implementation of interdisciplinary correlations is complicated by the fact that different sections of one discipline (one subject, module, course) are most closely related to the relevant sections of another discipline (another subject, module, course) that can be studied at different times. Therefore, a distinction is made between the implementation of prior, or anticipating, and subsequent interdisciplinary links. The first are implemented when the topic of one subject (module, course) precedes (with a larger or smaller time interval) the study of the corresponding topic of another subject (module, course). In this case, sometimes it is necessary to use material from another topic. Subsequent links are implemented when considering a topic that is studied later than the topic to which it is linked. In this case, the previously studied material becomes the basis for a new topic from another subject (module, course).

In the transition from the traditional, subject-oriented system of vocational education to dual, competence-oriented system, the systematic and increasing strengthening of interdisciplinary links can be considered as a "bridge methodology" for the development and updating of educational programs and curricula.

Compilation of the curriculum requires close cooperation with partner enterprises that have signed agreements on the organization of dual education.

It is important to pay attention to the following points:

- Determining the EP regulatory timeframe and program access requirements
- Determination of the total temporal budget of the program
- Determination of teaching time by disciplines and professional modules (observing the ratio of teaching time in EI / company is 30% to 70%)
- Determination of teaching / learning time (which academic year, semester)
- Determination of the form of practical training at the enterprise (block/concentrated training or uniform / distributed training during the whole course of study)

When developing working programs of modules it is necessary to pay attention to:

- Identification of addressable content for each module
- The basic concepts, theories, etc. to be covered
- Identification of the possibility of integrating part of the module content into the cycle of general education disciplines
- Correlation of acquired NAS and competences (GC and PC) in each module and verification of completeness in relation to the professional standard

The development of practical on - the - job training programs is carried out in close cooperation with in - company trainer. The starting point for the practical workplace training program is the lists of sample topics for the implementation of practical training in companies according to vocational modules. Such lists are included in the content of the vocational modules of the EP Annex5.



ANNEXES



Annex № 1

Review of the legal and regulatory framework related to the introduction of dual system of vocational education in the textile sector of the Republic of Uzbekistan

Textile sector:

- Decree of the President of the Republic of Uzbekistan, of 14.12.2017, PD № - 5285 "On measures to accelerate the development of textile and garment-knitwear industry"
- Decree of the President of the Republic of Uzbekistan, of 16.09.2019, PD № - 4453 "On measures to further develop the light industry and stimulate the production of finished goods"
- Decree of the President of the Republic of Uzbekistan, of 21.01.2022, PD № - 53 "On measures to stimulate deep processing, production and export of finished products with high added value by textile and garment and knitwear enterprises"
- Decree of the President of the Republic of Uzbekistan, of 08.04.2022, PD No. - 101 "On regular reforms to create conditions for stable economic growth by improving the business environment and development of the private sector"
- Decree of the President of the Republic of Uzbekistan, of 05.10.2022, PD № - 386 "On establishment of Namangan Institute of Textile Industry"

Vocational Education System:

- Law on Education of the Republic of Uzbekistan LRU No.- 637 of 23.09.2020
- Law on Employment of the Republic of Uzbekistan, of 20.10.2020, LRU No. -642
- Decree of the Cabinet of Ministers of the Republic of Uzbekistan, of 10.04.2017, No. 199 "On measures to establish vocational training centers for unemployed citizens in the territories of the Republic of Uzbekistan"
- Decree of the Cabinet of Ministers of the Republic of Uzbekistan, of 18.07.2017, No. 515 "On organization of activities of the State Inspectorate for supervision over the quality of education under the Cabinet of Ministers of the Republic of Uzbekistan"
- Decree of the President of the Republic of Uzbekistan, of 27.07.2017, PD № - 3151 "On measures to further expand the participation of industries and spheres of the economy in improving the quality of training of specialists with higher education"
- Decree of the President of the Republic of Uzbekistan, of 15.09.2017, PD № - 3276 "On measures for further development of activities on the provision of non-state educational services"
- Decree of the President of the Republic of Uzbekistan, of 26.09.2017, PD № - 3289 "On measures to further improve the system of training of pedagogical staff, retraining and advanced training of public education workers"
- Decree of the President of the Republic of Uzbekistan, of 25.01.2018, PD № - 5313 "On measures to radically improve the system of general secondary, specialized secondary and vocational education"
- Decree of the President of the Republic of Uzbekistan, of 03.02.2018, PD № - 3504 "On improving the activities of the Center for specialized secondary and vocational education of the Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan"
- Decree of the President of the Republic of Uzbekistan, of 31.12.2020, PD № - 4939 "On measures to radically improve the system of qualifications assessment and providing the labor market with qualified personnel"
- Decree of the Cabinet of Ministers of the Republic of Uzbekistan, of 29.03.2021, № 163 "On measures to organize dual education in the system of vocational education"
- Decree of the President of the Republic of Uzbekistan, of 08.06.2021 PD № - 5140 "On measures to further improve the system of training in working professions"

- Decree of the President of the Republic of Uzbekistan, of 31.08.2021, PD № - 5241 "On measures to strengthen the relationship of the educational process between higher, specialized secondary and vocational educational institutions, as well as industrial practice with sectoral organizations"
- Decree of the Cabinet of Ministers of the Republic of Uzbekistan, of 30.09.2021 № 616 "On additional measures to further improve the system of development of professional skills and knowledge"
- Decree of the President of the Republic of Uzbekistan, of 21.06.2022 PD № - 289 "On measures to improve the quality of pedagogical education and further development of higher educational institutions to train pedagogical staff"
- Decree of the President of the Republic of Uzbekistan, of 28.02.2023, PD No. - 27 "On the state program on the implementation of the strategy of development of new Uzbekistan for 2022 - 2026 years in the year of care for human and quality education", paragraph 8

Annex № 2

Comparison of professional standard and educational program

Professional standard	Parameters	Educational program
The employment rationale: what people should know, be able to do, and how they should behave in order to perform the functions of the profession in a quality manner.	The rationale for the document.	The learning rationale: what people should teach, how they should teach, and how to assess the outcomes of learning.
The language of work objectives, actions, situations and work outputs (output focus).	Language of the document.	Language of educational programs, curricula, process, methods and duration of learning (focus on inputs).
Suitability for employment / position - suitability for professional functions and tasks.	Results.	Learning outcomes - knowledge, skills, competencies and behaviors.
Requirements for qualifications, content, quality and working conditions.	Scope of regulation.	Requirements for the content, structure and design of the educational process in order to acquire the necessary competencies.
Describe the generalized job functions and their corresponding qualification level. Describe the knowledge and skills required for the appropriate performance of the labor activities assigned to the labor functions. Form the basis and direction for state educational standards.	Functions.	Define what, how, where and for how long to teach to ensure that the student learns the competencies described in the PS. Deploy the knowledge, skills, abilities, competencies and behaviors which form the competencies described in the PS.

Professional standard	Parameters	Educational program
A tool for communication (on human resource development) between companies/employers and their sector associations. Tool for comparative analyses of human resource development and use at national and international levels.	The use of document.	A tool for "translating" the international qualification requirements for labour into expected results in the world of vocational education. A tool for communication among the sphere of vocational education and employment services - for programs of additional vocational education and personnel retraining.
International Standard for Classification of Occupations (ISCO - 08).	Reference to an international standard.	International Standard for Classification in Education (ISCE - 11).
A community of professionals in a specific area of economic activity (employers).	Responsibility for the development.	Educational and methodological associations (teachers, methodologists, scientists).
Ministry of Employment and Poverty Reduction of the Republic of Uzbekistan.	Responsibility for approving.	Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan.
Determine job functions, products, technologies, sector / market trends. Define what knowledge, skills and abilities a professional should possess at what level of qualification. The need to assess knowledge, skills and competencies.	Document content.	Determine what competences should be developed by the graduate, what educational means will be used to develop this or that competence. Determine the share of available and variable part of educational programs and curricula. The need to assess the efficiency of competencies acquisition.
The certification of qualifications of workers and specialists. Certification of personnel.	Institutions based on the document.	Accreditation of educational programs, educational institutions and providers of educational programs.
Similarities of both regulatory documents:		
<ul style="list-style-type: none"> • Both types of documents set tasks for teachers and instructors, which need to be accomplished in the process of education and in close cooperation with employers and their industry associations • Work activities, necessary skills, knowledge and competencies, prescribed in the PS, largely coincide with the main objectives of the implementation of the content of the educational process within the framework of state educational standards • Both documents trace the list of planned learning outcomes - formed competencies and educational value orientations • Both are normative documents and mutually dependent on each other 		

 **Annex № 3**
Quality criteria of educational programs for dual vocational education (checklist)

Quality criteria	Yes / No
1. Does the title of the program correspond to the title of the state educational standard (or the selected qualification of the relevant PS)?	
2. Is the program (and its structural units) identified by a code that complies with the rules of the approving authority?	
3. Does the program include a list of abbreviations used?	
4. Does the program include a glossary of key terms?	
5. Does the program contain information on its regulatory status?	
6. Is the current legal and regulatory framework relevant to the development / revision and application of the program specified?	
7. Is the program based on an approved professional standard?	
8. Is the program based on an approved state educational standard?	
9. Is there an approved (by an authorized state body) format for vocational education programs at this qualification level?	
10. Does the official format for vocational education programs require adaptation?	
11. Is the program developed with active participation of all key stakeholders (employers, EI directors and teachers, methodologists...)?	
12. Does the program contain information about the composition of the development team and reviewers (full name, organization, position)?	
13. Is the team of developers aware of the relevant regulatory and administrative and other requirements for vocational education programs for the given qualification level?	
14. Is the team of developers familiarized with the regulation of basic professional educational programs and curricula accreditation?	
15. Is the period of program implementation (date of its subsequent mandatory revision) specified?	
16. If the program is updated, is the previous version/s of the program specified?	
17. Does the program include lessons learned from previous work on similar vocational education programs?	
18. Does the program include an explanatory note for users?	
19. Is the target group of the program identified?	

Quality criteria	Yes / No
20. Are the conditions of access to the target group of the program (required level of entrance qualification) specified?	
21. Does the program specify the level and name of the qualification to be awarded (output qualification)?	
22. Does the program contain information about alternative ways of continuing education in order to ensure academic mobility of learners?	
23. Does the program specify the type of educational institution of vocational education that has the right to implement it?	
24. Is information on the educational institution where the program was piloted available?	
25. Is information about the language of instruction given?	
26. Does the program include a brief profile (summary of learning objectives)?	
27. Does the program outline the expected learning outcomes in the form of KSA (Knowledge Skills Abilities) and competencies (practical experience)?	
28. Does the program include performance criteria to assess achievement of learning objectives?	
29. Does the program cover all the content needed to achieve the learning objectives?	
30. Is the program content relevant and complete enough to meet the learning objectives?	
31. Is the content of the program applicable (correct)?	
32. Is the content of the program relevant? Does it reflect the current production and business practices of industry organizations, as well as current trends in industry development?	
33. Does the program content include references to relevant sources of information?	
34. Does the program content comply with applicable regulatory requirements and industry standards?	
35. Does the program content take into account local conditions? Does the program reflect local reality?	
36. Does the outline of the program content follow the logical and consistent structure adopted for programs and curricula of this type?	
37. Does the program structure take into account the basic methodological principles of learning / teaching?	
38. Does the program promote reflection, self-learning and self - development of students?	
39. Do the patterns of behavior and values specified in the program meet the sociocultural expectations of teachers, learners and employers/business community?	
40. Have "21 st -century competencies" been integrated into the program?	
41. Is the professional language used in the program clear, consistent and acceptable to the target group?	
42. Is the program language free from errors and inconsistencies in terminology used?	

Quality criteria	Yes / No
43. Does the program include information on recommended teaching / learning methods?	
44. Does the program include an appropriate teaching and learning package - EMC (Educational and Methodological Complex), as well as practical recommendations for teachers to apply in the learning process?	
45. Are teaching and learning packages (EMC) available in the required scope and quality to implement the program?	
46. Does the program include a list of recommended specialized literature and links to web resources? Are these resources reliable?	
47. Does the program include information about the conditions for its implementation (e.g. required premises, equipment, tools, materials, EMR, etc.)?	
48. Does the program specify the form / forms of training?	
49. Does the program indicate the normative training period (number of training hours) - depending on the form of training and on the entry qualification level?	
50. Does the total duration of the program and distribution of teaching time by blocks (types of training sessions) correspond to the expected learning outcomes?	
51. Does the program include an academic calendar?	
52. Is this training calendar convenient for all parties to the dual vocational education system?	
53. Is the training schedule coordinated with the training plans of the enterprises?	
54. Is the program dual in terms of the ratio of theoretical to practical training (proportion of training conducted on the job)?	
55. Is the program "flexible", does it have a variation component?	

Annex № 4

Comparison of International Standard Classifier

ISCO - 08 and ISCE - 11

Parameters	International Standard Classification of Occupations (ISCO)	International Standard Classifier of Education (ISCE)
Year of issue of the current version	2008	2011
Title in English	International Standard Classification of Occupations (ISCO)	International Standards for Classification in Education (ISCED)
Responsible organization	International Labour Organization (ILO)	United Nations Educational, Scientific and Cultural Organization (UNESCO)
Main function	Classify and internationally compare all currently existing occupations worldwide	Classify and internationally compare all types of educational institutions and qualifications currently available worldwide

Parameters	International Standard Classification of Occupations (ISCO)	International Standard Classifier of Education (ISCE)
Subject matter	Professions, specialties, occupations	Qualifications
Number of levels of classifications	4	9
Structure	436 primary groups 130 basic groups 43 subgroups 10 major groups	U0 - Early childhood education U1 - Primary education U2 - Basic secondary education U3 - Complete secondary education U4 - Post-secondary non - tertiary education U5 - Short-cycle tertiary education U6 - Bachelor and its equivalent U7 - Master's degree and its equivalent U8 - Doctoral studies and their equivalent
Basis for classification	Commonality of the level of qualification and professional specialization required to perform the respective jobs	The commonality of knowledge, skills and abilities (competencies) required to award a particular qualification
Key basic concepts	<ul style="list-style-type: none"> • work • occupation • qualification • qualification specialization • qualification level 	<ul style="list-style-type: none"> • qualification • course • module • education • training • educational program
Is the base for...	Professional standards and competency profiles	State educational standards, basic professional educational programs and basic curriculum
Compliant at national level		
Uzbekistan	Classifier of Occupations of Workers, Positions of Employees and Tariff Classifications (COWPETC)	The National Qualification Framework (NQF) and the National Classifier of Training Areas and Professions of Secondary Specialized Vocational Education
Germany	The National Occupational Classifier (Klassifikator der Berufe). and the Register of Free Occupations (Verzeichnis der freien Berufe)	The Register of State - recognized Learning Occupations (Verzeichnis der anerkannten Ausbildungsberufe)

 **Annex № 5**

EP layout (experimental)

Cover page

MINISTRY OF HIGHER EDUCATION, SCIENCE AND INNOVATIONS OF THE REPUBLIC OF
UZBEKISTAN

VOCATIONAL EDUCATION DEVELOPMENT INSTITUTE

Basic professional educational program

*(primary vocational education, secondary vocational education, specialized
secondary vocational education)
(select as appropriate)
by profession*

(job title)

Qualification level (according to NQF): _____

Occupation code (RUZ): _____

Name of qualification:

1. _____

2. _____

Occupation Code (ISCE - 08): _____

Occupation Code (ISCO - 11): _____



Section 2. Abstract. Information on approval, developers and reviewers

1. This program was developed by (*brief description about the basis for the development of this MPEP*).
2. The program is approved at the meeting of the Coordination Council on the activities of training and methodological associations in the field of higher and specialized secondary, vocational education under the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan № ____ of “ ____ ” _____ 20__.

APPROVED AND RECOMMENDED FOR IMPLEMENTATION by Order of the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan № _____ of “ ____ ” _____ 20__.

Developers of the program:

- (*full name, place of work, position*)

- (*full name, place of work, position*)

...

Program reviewers:

- (*full name, place of work, position*)

- (*full name, place of work, position*)

...



Section 3. Explanatory note. (Goals of the introduction of dual education on the basis of the new educational program. Context of the introduction of dual education on the basis of the new educational program)



Section 4. Table of Contents



Section 5. List of abbreviations used



Section 6. Key Terms



Section 7. PROGRAM CONTENT

7.1 Basic concepts

7.2 Purpose of the document

7.3 Target group

7.4 Vertical integration and continuing education

7.5 Form of implementation of the educational program

7.6 Areas of professional activity of graduates

7.7 Language of instruction

7.8 Information on the P that is the basis for the development of the EP

7.9 Information about the applied methodology of EP development

7.10 Proposals to ensure sustainability of the program implementation

Section 8. Overall EP learning outcomes

(The Section presents the expected results of the educational program implementation in the form of general, general professional and professional competencies derived from work functions and actions of the professional standard).

8.1. List of general competencies that a graduate should have upon completion of the EP:

- GC 1
- GC 2
-

8.2. List of general professional competencies (PC) that a graduate should have upon completion of the EP:

- PC 1
- PC 2
-

8.3. List of professional competencies (PC) that a graduate should have upon completion of the EP:

Qualification _____ (title of 1- qualification)

PM - 1.1.: _____ (title of PM - 1.1.)

PC 1.1. _____ (title of PC 1.1.)

PC 1.2. _____ (title PC 1.2.)

....

PM - 1.2.: _____ (PM - 1.2. title)

PC 2.1. _____ (title of PC 2.1.)

PC 2.2. _____ (title PC 2.2.)

....

PM - 1.3.: _____ (PM-1.3. title)

....

Qualification _____ (title of 2 - qualification)

PM - 2.1.: _____ (title of PM - 2.1.)

PC 4.1. _____ (title of PC 4.1.)

PC 4.2. _____ (title of PC 4.2.)

....

PM - 2.2.: _____ (PM - 2.2. title)

PC 5.1. _____ (title of PC 5.1.)

PC 5.2. _____ (title of PC 5.2.)

....

PM - 2.3.: _____ (title of PM - 2.3.)

....

Section 9. General structure of the curriculum in accordance with the EP

(The section outlines the general structure of the curriculum, which is an integral part of the educational program).

Form № 1

General structure of MPEP

Block number and title	Description of modules	Duration of training (in hours)
Block I: ...	...	...
Block II: ...	...	...
Block III: ...	...	...
	Hours at disposal of the educational institution in Vocational education (EI VET)	...
	State Exam and Final State Examinations	...
	Total	...

(Further, the purpose and content of general professional modules are briefly described, the breakdown of the total fund of teaching time by blocks of the curriculum is commented).

Section 10. Model curriculum and calendar training schedule

Form №2

Model syllabus

Name of occupation (specify level of education)	Name of qualification	Period of studyя	Form of education	QR code		
Occupation code - occupation title	1. ... 2. ...	...	... 20_____			
Module block	Code	Module name and type of classes	Period of study (semester)	Training hours		Self - study
				EI	Company	
1	2	3	4	5	6	7
1 - Block	GES	General subjects	...	...	...	...

2 - Block	GPM 2.1	General professional modules				
General professional modules	GPM 2.1.1	...	...	...	...	...
	GPM 2.1.2	...	...	...	...	...

	GPM	Practical lessons GPM at the enterprise	...		...
		Total		...	...	...
Qualifications				...	...
		1. _____ (Qualifications)		...	...	...
3 - Block		Professional modules		...	...	...
Professional modules	PM - 1.1	...	...	...	...	...
	PM - 1.2	...	...	...	...	...

		SE	...		...	...
		2. _____ (Qualifications)		...	...	...
Professional modules	PM - 2.1	...	...	...	...	...
	PM - 2.2	...	...	...	...	...

		SE	...		...	...
4 - Block		QSE		...	...	...
		Hours available to EI	...	...		...
		Totally		...	...	...
		Total:		...		

Development of the calendar training schedule

In the schedule it is assumed that during the week students pass the theoretical, academic and practical part of the educational program, and the practical part related to production, the rest of the days at the enterprise.

The calendar training schedule is drawn up in agreement with the employer.

General education subjects are taught in full in the first semester, and from the following semesters the educational process is organized at the enterprise and in the educational institution.

In this case:

- 1-option: 3 days in an educational institution 3 days in an enterprise
- 2-option: 2 days at the educational institution 4 days at the enterprise

The educational process can be organized on a weekly basis. In this case:

- one week in the educational institution three weeks at the enterprise
- three weeks at the educational institution five weeks at the enterprise

Section 11. Conditions of enrollment of students in the program

(The section describes the legal and regulatory requirements for admission/enrollment of students in the program)

Section 12. Principles and Methods of Training

(The section describes the general principles applied to the organization of the process of dual training based on the acquisition of professional-activity competencies)

12.1 General didactic principles in dual vocational education and training

12.2 Principles applied in dual vocational education 12.3

12.3 Teaching methods used by teachers and master trainers in the classroom 12.3

Section 13. Evaluation

(The section highlights key issues related to assessment of learning outcomes in dual vocational education)

13.1 Regulatory and legal framework regulating the assessment of the results of the program mastering by students in the system of dual education

13.2 Current assessment

13.3 Intermediate assessment

13.4 Final assessment

13.5 Assessment methods

13.6 Assessment in dual software - process and responsibilities of the parties

13.7 Assignment of appropriate qualifications

 **Section 14. Observational and professional modules**
Form No. 3**Table of content of EP general professional and vocational modules**

_____ (code GPM/PM)

(Module)

Block in EP (Educational program) (mark with + sign)	GES (general education)	GP (general professional)	P (Professional) +	Elective	
Module name (+ sequence number in the EP)	_____ (module)				
Allocated hours	_____ hours				
Recommended period and frequency of teaching (mark with a + sign)	Semester 1	Semester 2	Semester 3	Semester 4	(teaching frequency)
Module requirements (mark with + sign)	Mandatory		Elective		
Overall objective of the module					
Related modules (+ code according to the EP)					

Module	Acquired competencies	Summary of Content	Competencies
(Module)	The graduate is able to: - ... - ... - The graduate is able to ... - ... - The graduate has practical experience in	- ... - ... - ...	(competency codes)
Learning process	Allocation of instructional time by location:		
	Classes at EI: ___% of time (___ hours)	Classes at the company: ___% of time (___ hours)	Self - Study: ___% of the time (___ hours)

Module	Acquired competencies	Summary of Content	Competencies
<p>Methodological recommendations for teachers: Faculty can use the following methods: </p>			
<p>Assessment of learning</p>	<p>Recommended assessment methods: The following methods are recommended for assessing learner competencies: - ...; ...; ...</p>		
<p>Notes for appraisers:</p>			

Language of instruction Depending on the language of instruction established for the educational institution

Recommended literature

Internet resources


Annex № 6
List of key competences recommended by the Council of the European Union within the concept of lifelong learning

Key competences for LLL
1. Basic skills (literacy, numeracy, and basic digital skills)
2. Language competences in both official and other languages
3. Competences in sciences, technology, engineering, and mathematics (STEM)
4. Digital competences
5. Personal, social, and learning - to - learn competence
6. Citizenship competences
7. Entrepreneurship competence
8. Awareness of the importance of the acquisition of key competences and their relation to society

List of useful references

1. Concept of implementation and further development of dual education. GIZ and ICON consulting company. https://profstandart.mehnat.uz/storage/national_system_qualification/1654673631.pdf (Uzbekistan 2022)
2. Methodological recommendations for the development of curricula and schedules of the educational process of dual education in professional educational institutions. https://edu.profedu.uz/media/files/2._PTMda-dual-uquv-reja-uquv-dasturi.pdf
3. Guidelines for the development of educational standards for dual training based on professional standards. - https://profstandart.mehnat.uz/storage/national_system_qualification/1654673994.pdf (GIZ/ICON Uzbekistan 2022)
4. Methodological recommendations for the development of educational programs based on professional standards - Institute of Pedagogical Innovations, Minutes of the meeting No. 5 of 29.03.2022.
5. Educational program and curriculum -
1 <https://usperm.ru/clarify/obrazovatel'naya-programma>
<https://usperm.ru/clarify/obrazovatel'naya-programma-i-uchebnyy-plan-o-chem-oni-mogut-rasskazati-uchebnyy-plan-o-chem-oni-mogut-rasskazat> ; https://studme.org/46442/pedagogika/uchebnyy_plan .
6. Sectoral Association of Textile Industry of the Republic of Uzbekistan - <https://uzts.uz/ru/uztekstilprom/> .
7. DACUM – Toward a center for adult learning. Step by step. Methodological manual <https://www.dvv-international-central-asia.org/fileadmin/files/central>
https://www.dvv-international-central-asia.org/fileadmin/files/central-asia/documents/Publications_and_other_media/Publications/VET_publication-final_ru.pdf (Uzbekistan 2013).
8. DACUM in Vocational Education - Methodological Manual - <https://www.dvv-international>
https://www.dvv-international-central-asia.org/fileadmin/files/central-asia/documents/Publications_and_other_media/Publications/dacum-ru.pdf
<https://www.dvv-international-central-asia.org/fileadmin/files/central>
https://www.dvv-international-central-asia.org/fileadmin/files/central-asia/documents/Publications_and_other_media/Publications/dacum-ru.pdf (Uzbekistan 2008).
9. Methodological Recommendations for the Development of Work Curricula Based on Updated Model Curricula and Programmes of Technical and Vocational Education <https://kasipkor.kz/wp-content/uploads/2017/05/%D0%9C%D0%B5%D1%82-%D1%80%D0%B5%D0%BA>
<https://kasipkor.kz/wp-content/uploads/2017/05/Мет-рек-к-раз-ПУП.pdf%D0%BA-%D1%80%D0%B0%D0%B7-%D0%A0%D0%A3%D0%9F.pdf> (Казахстан 2017).
10. Methodological guide for the development of curriculum frameworks in the dual system of German VET 17.06.2021.

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