WP2.2.Teaching methodologies (Jizzakh Polytechnic Institute)

1. Methodology of education in universities of Uzbekistan (MSc)

1.2. Directions of study

The master's program provides knowledge in specific areas and lasts at least two years after the undergraduate program. At the end of the magistracy students receive a state diploma (Magistr), which gives them the right to work in the relevant professional areas. Admission to the magistracy carried out on a competitive basis. Only students who have received a bachelor's degree in a particular area can apply for a master's degree program in a specialty that corresponds to the previous undergraduate program. The total amount of master's study time must be allocated to:

- theoretical education - 63–70%;
- certification - 8–10%;
- holidays - 12 - 16%;
- qualification practice - 6–12%;
- final qualifying work - 2-3%.

Theoretical training should be distributed as follows:

Block name	By fields of knowledge,%					
	Humanitarian sphere	Social sphere, economics and law	Production and technical sphere	Agriculture and Water Management	Health care and social security	Services sector
Humanities and socio-economic disciplines	23 - 25	15 - 20	15 - 17	15 - 17	15 - 20	15 - 20
Mathematical and natural sciences	8 - 25	10 - 15	20 - 25	20 - 25	10 - 15	10 - 15
General professional disciplines	33 - 50	50 - 55	35 - 50	35 - 50	45 - 50	45 - 50
Special disciplines	9 - 10	10 - 15	10 - 15	10 - 15	10 - 15	10 - 15
Additional disciplines	5 - 7	5 - 7	5 - 7	5 - 7	5 - 7	5 - 7

1.1. Entry Requirements

Admission to the magistracy is carried out according to a procedure similar to the undergraduate program: it is organized by the university in accordance with the quota for admission based on government grants and contracts, which are approved, respectively, by the Decree of the President of the Republic of Uzbekistan.

Admission to the master's program is made on the basis of equal rights for all (for state grants and contracts), general admission requirements and a general test, which provides a priority for admission of those applicants for state grants who demonstrated the best overall marks in the admission process. Other applicants have the right to be admitted on the basis of assessment within the quota limit for admission.

Examinations are organized separately in each institution of higher education in the field of magistracy, languages and types of training.

Students awarded presidential and other state nominal scholarships are admitted to the master's program on the basis of a grant from the state budget without any entrance exams.

1.3. Training program

In contrast to the bachelor degree at the master's level, the emphasis shifts from the theoretical development of the basics of disciplines to independent research work.

The total amount of study time should be allocated to:

- theoretical training 30-40%;
- certification 4-7%;
- holidays 13-16%;
- scientific activity 40-50%.

Scientific activities should be divided into:

- research work 53-57%;
- scientific and pedagogical work 28-22%;
- preparation of a master's thesis 19-21%.

The volume of theoretical education, depending on the specialty of the magistracy, should be distributed among the blocks of disciplines as follows:

- general methodological disciplines of 30-45%;
- disciplines of specialty 55-70% .14.

1.4. Teaching methods

Over 50% of the time in the magistracy is related to scientific activities, consisting of scientific research, scientific and pedagogical work and the preparation of a master's thesis independently and under the guidance of a supervisor. The supervisor is appointed from among the most qualified professors and teachers in the major department. Methods of teaching research should:

- develop practical skills of independent research activities;
- teach yourself to form knowledge and skills in conducting research, analyzing and formulating research results, preparing scientific publications using modern information technology tools;
- instill in students the ability to navigate the information databases of the latest achievements of science, technology and technology;
- use them when doing a master's thesis. In turn, the method of teaching scientific and pedagogical work should:
- to form the skills and abilities of pedagogical activity using modern pedagogical and information technologies, methods of interactive teaching and educational work;
- to inculcate the skills of organizing the scientific and methodological support of the educational process.

1.5. Student performance

This part is similar to the undergraduate program.

1.6. Employment Opportunities

According to the State Educational Standard of Higher Education, the graduate of the master's degree should be ready for:

• independent research, scientific, pedagogical and managerial professional activity in the chosen specialty;

• to receive postgraduate education in the specialty corresponding to the master's training;

• to receive additional professional education in the system of retraining and advanced training of personnel.

Unlike bachelors, graduate students can be employed in positions that imply a high level of autonomy when making decisions: specialists, university professors, and managers.

1.7. Student assessment

This part is similar to the undergraduate program.

1.8. Certification

Graduates are awarded a state diploma, which gives them the right to start work in the relevant profession. Masters can continue their postgraduate studies.

1.9. Programs outside the bachelor's and master's programs

According to the Law "On Education" in Uzbekistan, higher education is represented as a bachelor degree (at least 4 years of study) and a magistracy (minimum 2 years of study). There are several examples when bachelors study for 4.5-5 years. So the preparation of bachelors in architecture is 4.5 years. Bachelors in International Relations, International Law and International Economic Relations at the University of World Economy and Diplomacy are preparing for 5 years.

2. Methodology of study in EU universities

2.1. Student motivation

Within the various functions for teachers and students, student motivation is a key factor in the implementation of training. And here the main role is played by the wider support of students by teachers. If students are motivated to understand and master the material they are taught, they will rather choose strategies that lead to deeper levels of learning.

The following are examples of good practice for teachers to increase student motivation:

- to attract students to cooperate in creating courses of interest;

- to acquaint students with the complex elements of the subject;

- Inform students about the various career paths that may be available to them after graduation;

- ensure that students understand the significance of what they are doing and the significance of the context in which this occurs, using the example of a practical situation that is relevant to others;

- apply your own research to student learning, question the methods used and look for alternatives;

- to invite representatives of society with special knowledge and experience in the field of study, or as an example to follow, to invite graduates who combine practical and educational experience of their profession with the experience gained during their studies.

More effective hands-on experience will allow students and professionals to connect theory and knowledge and share knowledge and skills.

There is a clear link between the students' previous experience and their academic performance. With this information, teachers will be easier to help students, increasing the adequacy of learning, thereby seeking students to have a better understanding. Previous experience influences students' opinions about learning, their motivation and approaches to learning. Teachers will be able to make contact with students more easily (and vice versa) if they know about their previous experience and understanding of the subject being studied.

There are various ways for teachers to get this information about their students. For example:

In small groups: teachers can ask students to interview each other, find out why they chose this course, what they hope to get from it and what they already know about the subject. After that, each student can introduce his interlocutor to the rest of the audience.

In large lecture groups: the teacher can use small groups to get information about the knowledge of the subject of each group, to share them with the entire audience.

2.2. Teaching and learning methods

European universities focus on such skills and competencies that demonstrate students' responsibility for their own learning, independence and cooperation, understanding, ability to solve problems. There are a number of teaching strategies that encourage such learning. These include:

Achieving a greater activity of students in acquiring knowledge and skills: this can, in particular, be achieved through activities in the audience, the application of experimental research and the use of computer-based training programs.

Achieving a better understanding of students, what they do and why: this can be done through diaries, analytical reports, etc.

Priority for interaction: for example, through hands-on activities with the leader (tutorials), discussions in pairs or in small groups, as well as in large discussion groups

Priority on transferable skills: going beyond the immediate requirements of the course to skills that will be applicable to students later in their careers and in life.

In European universities, the practical implementation of student-oriented learning may include a number of components. Among them:

- *problem-oriented learning;*
- *group project work;*
- *student-oriented active learning;*
- *resource training;*
- *use the method of analysis of specific situations (case method);*
- *role-playing games;*
- *classroom workshops;*
- *group presentations;*
- *use of web conferencing environment, especially in distance education;*
- *students maintain special journals to record their learning experience.*

Work in small groups, often used in problem-oriented learning, allows students to learn how to work in a team. In the course of this activity, they identify and close their gaps in knowledge. This is an effective teaching method, as it activates initial knowledge, improving learning - especially where the problem approach is applied in the appropriate context (for example, with medical students in a hospital).

Regardless of the teaching method used, the most important is to ensure the active role of the student.

In view of the above, the following table provides examples of methods used in European universities. Teachers can get some ideas for the work in the classroom and outside it.

When choosing a particular method, teachers should remember those with whom they work - their student groups. Not all students are equally motivated to learn, so in some cases, different incentives or combinations of these may be needed.

Teaching methods

Lecture format	***Non lecture format***
Small groups (short discussion in pairs)	Group discussion
"Snowball" (the transformation of small groups into larger groups)	Mentoring help other students
Transitions (mixing student groups)	Teamwork
Using Tutorial Groups	Debate
Rounds (students take turns)	Excursions and exit lessons
Written reflection (lasting 3-4 minutes)	Practical lessons
Student presentations	Diary of thought, study journals
Poster presentations	Computer training
Role-playing games	Writing articles in the media
Creating communication diagrams (smart cards)	Formation of the portfolio

2.3. Student assessment methods

Formative assessment: in contrast to the final (summative) assessment, the emphasis here is on providing feedback to students on the educational process, as a result of which their learning goes more correctly, gaps and areas of knowledge that need improvement are identified. Such assessments can be carried out in various forms: diaries, journals and records, portfolios, mutual or self-assessment, training contracts and evaluations by agreement, projects, group work, profiling and defining own skills and competencies.

Criterion assessment: the student's work is compared with the criteria established for the course, as opposed to standard-oriented assessment, when students are evaluated against each other. One of the advantages of this type of assessment is that teachers (and students) can easily see where students are successful and where not. This can be extremely valuable in order to improve the course for future students.

Mutual and self-esteem imposes responsibility on the student, which emphasizes the heightened sense of autonomy of the student. In any form of evaluation in the questions asked, emphasis should be placed on why and how, and not just on factual information.

For assessing learning outcomes that are not based on short-term remembering, teachers can use a variety of different assessment methods that serve clear goals. Some of these methods are listed in the following table:

Assessment methods and their objectives

Evaluation	***Example goals***	***Evaluation***	***Example goals***
Essay or task performed at home	- Prepare arguments and analysis; - Search for relevant information;	*Coursework (continuous assessment)*	- Maintain proper motivation; - Participate in classroom work; - Develop skills in accordance with the objectives of the course;

	- Prepare an effective presentation; - Integrate ideas or theories; - Express ideas properly		- Maintain interest and energy; - Align different tasks with each other.
Exam with books	- Search for information and ideas in the sources; - Correctly give links to materials; - Apply information to relevant situations; - Remember key ideas or structures	*Моделиру ющие задания*	- Show the appropriate position; - Interact with others in applying knowledge or experience; - Analyze or synthesize ideas; - Demonstrate creativity or imagination
Tasks proposed by students	- Demonstrate knowledge of course objectives; - Demonstrate an understanding of the structure of the course and materials on it; - Demonstrate an understanding of key issues.	*Group projects*	- Collaborate; - To benefit from real situations; - Evaluate personal skills; - Integrate with other views and models
Oral communi-cation	- To cope with questions or arguments; - Provide a justification for statements or ideas; Interact with others; - Use regular / technical speech as appropriate; - Fluently express ideas	*Project work*	- Search for information; - make conclusions; - Plan the study of proper depth; - Organize information for specific purposes; - Present ideas; - Be original; - Keep proper motivation