**** **LLP «Astana IT University»**

|  |  |
| --- | --- |
|  | **APPROVED**  **Rector of «Astana IT University»**  **\_\_\_\_\_\_\_\_\_\_\_\_\_ D.Akhmed-Zaki**  **«\_\_» \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_2022** |

**EDUCATIONAL PROGRAM**

**7M06107 Media Technologies**

Code and classification of the field of education: 7M06 - Engineering science and technology

Code and classification of areas of study: 7M061 - Information and

communication technologies

Group of educational programs: M094 - Information technology

ISCED level: 7

NQF level: 7

SQF level: 7

Duration of the study: 2 years

Number of credits: 120

**Nur-Sultan 2022**

**DEVELOPED:** by the Department of Academic Activities of LLP«Astana IT University» **(**AITU)

|  |  |  |
| --- | --- | --- |
|  |  |  |

**APPROVED** by the Academic Council # \_\_\_\_\_\_ as of «\_\_\_» \_\_\_\_\_\_\_\_\_\_\_2022

**CONTENT**

LIST OF ABBREVIATIONS AND SYMBOLS......................................................4

1. DESCRIPTION OF THE EDUCATIONAL PROGRAM....................................5

2. PURPOSE AND OBJECTIVES OF THE EDUCATIONAL PROGRAM..........6

3. REQUIREMENTS FOR THE ASSESSMENT OF THE EDUCATIONAL PROGRAM LEARNING OUTCOMES...................................................................7

4. PASSPORT OF THE EDUCATIONAL PROGRAM..........................................7

4.1 General.................................................................................................................7

4.2 Matrix correlation of learning outcomes of the educational program with the formed competencies...............................................................................................12

4.3 Information about modules/disciplines.............................................................13

**LIST OF ABBREVIATIONS AND SYMBOLS**

RK Republic of Kazakhstan

HE Higher Education

SOSE State Obligatory Standard of Education

ISCED International Standard Classification of Education

NQF National Qualifications Framework

EP Educational Program

SQF Sectoral Qualifications Framework

GC General Competencies

PC Professional Competencies

BC Basic Competencies

LO Learning Outcome

**1.** **DESCRIPTION OF THE EDUCATIONAL PROGRAM**

The program is designed to train highly qualified specialists in the field of media technologies, who are versed in various areas of information technology, media and socio-economic life, including international projects. The program is aimed at developing in students an integrated approach to the field of media technologies, a deeper understanding of the media industry based on an integrated multidimensional approach and mastering various skills (hard, soft) and both theoretical and practical savviness.

The master's program provides students with analytical tools for developing complex technical and media solutions using modern technologies and equipment, specialized software. In terms of education, the educational program implements the principles of the democratic nature of education management, which include expanding the boundaries of academic freedom and the powers of educational institutions, which ensures the adaptation of the system of technical and vocational education to the changing needs of society, the labor market economy. The flexibility of the educational program allows taking into account the abilities and needs of each student as an individual on the one hand, as well as production and society on the other hand.

This educational program ensures the application of an individual approach to students, transformation of professional competencies from professional standards and qualification standards into learning outcomes. In the learning process, a student-centered principle is provided, the idea of ​​which is to shift the emphasis in the educational process from teaching to learning. In other words, the developed educational program meets the needs of all stakeholders (students, employers, the state) and meets external qualification requirements.

A graduate of the educational program can conduct the following ***types of professional activities:***

- Project-oriented;

- Research;

- Pedagogical;

- Management in the field of media technologies.

*The objects of professional activity* of graduates of the master's program are:

* international and domestic companies in the fields of media, journalism and PR, marketing and media content production;
* Digital, PR, SMM, Film departments in various private and international production companies;
* social spheres (education, science, culture);

- the service sector of the media market.

**2.** **PURPOSE AND OBJECTIVES OF THE EDUCATIONAL PROGRAM**

Training of highly qualified personnel in the field of media technologies and creative activities, capable of implementing their professional knowledge, skills and abilities in international and domestic media organizations and companies.

Objectives of the EP:

- to equip master’s students with the fundamental concepts, theory, principles and best practices in the field of media, necessary for the production of high-quality creative content in a changing environment;

- to develop the skills of managing media projects and developing the features of a creative approach, in-depth understanding of work in the media environment, scientific and pedagogical activities, independent research work, expertise in the subject area;

- to expand the understanding: about the current state and development trends of the media market, about modern scientific and innovative achievements of media technologies;

- to expand understanding of the formulation of innovative tasks and apply methods of a creative approach to the creation of media projects for their implementation, evaluate the quality of projects produced, analyze the effectiveness of the team, use software products to complete content creation tasks, bring the results of scientific research to practical application, carry out pedagogical activity; develop recommendations for improving the efficiency and optimization of media projects;

- to develop competencies in solving complex professional problems in project planning and main stages of production, in organizing work management, resources, team, communications on media projects, in the methodology for developing and implementing innovative technical solutions in media projects in various fields, including the sphere of scientific and pedagogical activities.

- to understand the methodology of scientific research in the subject area, the main types and directions in media technologies, methods of producing media projects, including: programs, films, commercials, advertising, media content in general; methods of processing and presenting professionally significant information, forms and methods of pedagogical activity; modern achievements in the field of application of information technologies in the media sphere.

## **3.** **REQUIREMENTS FOR THE ASSESSMENT OF THE EDUCATIONAL PROGRAM LEARNING OUTCOMES**

Table 1

|  |  |  |
| --- | --- | --- |
| # | **Exam form** | **Recommended weight, %** |
| 1 | Computer testing | 20% |
| 2 | Writing | 10% |
| 3 | Oral | 5% |
| 4 | Project | 30% |
| 5 | Practical | 30% |
| 6 | Complex | 5% |

**4. PASSPORT OF THE EDUCATIONAL PROGRAM**

**4.1 General**

|  |  |  |
| --- | --- | --- |
| **#** | **Field name** | **Note** |
|  | Code and classification of the field of education | 7M06 - Engineering sciences and technologies |
|  | Code and classification of areas of study | 7M061 - Information communication technologies |
|  | Group of educational programs | M094 - Information technology |
|  | Name of the educational program | 7M06107 Media Technologies |
|  | Brief description of the educational program | The program is designed to train scientific and pedagogical staff and experts in media technologies, the production of creative content of various kinds in the areas of social and creative life, including international projects. The program is aimed at developing in students an integrated approach to the field of media technologies, a deeper understanding of the media industry based on an integrated multidimensional approach and mastering various skills (hard, soft) and both theoretical and practical savviness. |
| 6 | Goal of EP | Training of highly qualified scientific and pedagogical personnel and experts in media technologies and creative activities, able to implement their professional and pedagogical knowledge, skills, and abilities in international and domestic companies, public, and research organizations. |
| 7 | Level according to ISCED | 7 |
| 8 | Level according to NQF | 7 |
| 9 | Level according to IQF | 7 |
| 10 | **List of competencies of the educational program:** | |
|  | List of competencies of the educational program:  GC1. Formation of an ideological and civic position, observance of ethical, spiritual, and environmental values  GC2. The ability for self-organization and self-education, leadership and motivation of others, management of others  GC3. The ability to communicate in oral and written forms in a foreign language to solve problems of interpersonal and intercultural interaction  GC4. The ability to work in a team, tolerantly perceive social, ethnic, confessional, and cultural differences, negotiate, discuss and other types of communication  GC5. The ability to present (publish) the result of scientific research at a conference or in a printed publication, including in a foreign language  GC6. Willingness to lead a team in the field of their professional activity, tolerantly perceiving social, ethnic, confessional, and cultural differences  BC1. Know and be able to use the tools for efficient production of media content, taking into account project risks and uncertainties, be able to control the state of the media project (i.e. have up-to-date, complete information about the progress of the project, problem areas, potential risks and opportunities, as well as key parameters of the project – terms, cost and execution of the content), as well as the ability to interact with people involved in the media project  BC2. The ability to develop and create content from scratch, stage-by-stage organization of production (pre-production, production, post-production)  BC3. The ability to organize and optimize the joint work of various divisions of creative departments, including those such as IT. Be able to formulate and implement innovative solutions and technological approaches in media content production. Skills in managing and developing a media project team, the ability to use information technology in working on media projects  BC4. The ability to draw up a budget for the creation and launch of a media project, monitor its implementation, and adjust it, as well as analyze the international experience  PC1. The ability to generate creative solutions and approaches necessary to ensure that the media project will be unique and pass the stages of editing, acceptance, and approval by the customer  PC2. Willingness to produce and plan support for a media project at various stages    PC3. Ability to interact with each of the stakeholders, be able to build relationships with the team of production departments, directors, producers, and other persons involved in the media project    PC4. Know about modern methods of content production, be able to find the best way to produce a project, determine the creative value of a project, and organize the work of a media project team  PC5. Ability to apply the acquired theoretical and practical knowledge in solving practical problems in the field of ICT, successfully carry out management and research activities  PC6. The ability to independently formulate the subject area in software development, determine the requirements and expectations of the end-user or customer, draw up a phased plan and develop documentation for the software system. | |
|  | RS1. Knows the role of historical, philosophical, and spiritual processes in modern society, approaches to solving problems that arise during research activities  RS2. Knows a foreign language at the required academic level to obtain professional information and sufficient communication skills for interpersonal communication using general, business, and professional vocabulary for particular purposes in media technology, business meetings and negotiations, and conducting creative projects at the national and international level.    RS3. Applies the main provisions, methodology and didactics, designs and organizes the pedagogical process at the university using modern educational and communication technologies based on interdisciplinary and problem-oriented learning.    RS4. Applies the main provisions of the psychological patterns of management activities in the field of media, the specifics of the use of socio-psychological knowledge and the analysis of the socio-psychological principles underlying the production of content and the conduct of creative projects.  RS5. Proficient in the methods, principles, and culture of modern management of creative projects and content; flexible approaches and tools for technical and theoretical solutions in the media; organizational and managerial decisions and organizational transformations in managing innovative projects.  RS6. Uses tools and methods to produce media content, procedures for organizing the filming process, creating and developing a project estimate, managing the time and cost of a media project, monitoring the project's progress, and calculating the schedule and filming schedule for the project.  RS7. Knows the basics of creating full-fledged full-scale media projects at the international level.    RS8. A student uses creative thinking tools, research, and analysis of media products to implement high-quality projects in various areas.  RS9. Evaluates and produce media projects.    RS10. Uses creative and technical products to fulfil the tasks of producing media content, using modern approaches and using information technology  RS11. Possesses creative skills in the production and management of media projects  RS12. Leads a team in the software development process.  RS13. Develop the architecture of the software system, ensure the security and reliability of the system | |
|  | Form of study | Full-time |
|  | Languages of instruction | English, Kazakh and Russian |
|  | Number of credits | 120 |
|  | Awarded Academic Degree | Master of Science in the educational program "Media Technologies." |

**4.2 Matrix correlation of learning outcomes of the educational program with emerging competencies**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RS1** | **RS2** | **RS3** | **RS4** | **RS5** | **RS6** | **RS7** | **RS8** | **RS9** | **RS10** | **RS11** | **RS12** | **RS13** |
| **GC 1** | Маркеры-галочки |  |  |  |  |  |  |  |  |  |  |  |  |
| **GC 2** |  |  | Маркеры-галочки |  |  | Маркеры-галочки |  |  |  |  | Маркеры-галочки |  |  |
| **GC 3** |  | Маркеры-галочки |  |  |  |  |  |  |  |  |  |  |  |
| **GC 4** |  | Маркеры-галочки |  | Маркеры-галочки |  | Маркеры-галочки |  |  |  |  | Маркеры-галочки |  |  |
| **GC 5** |  | Маркеры-галочки | Маркеры-галочки | Маркеры-галочки |  |  |  |  |  |  |  |  |  |
| **GC 6** |  |  | Маркеры-галочки | Маркеры-галочки | Маркеры-галочки |  |  |  |  |  |  |  |  |
| **BC 1** |  |  |  | Маркеры-галочки | Маркеры-галочки | Маркеры-галочки |  |  | Маркеры-галочки |  |  |  |  |
| **BC 2** |  |  |  |  |  | Маркеры-галочки | Маркеры-галочки | Маркеры-галочки | Маркеры-галочки | Маркеры-галочки |  |  |  |
| **BC 3** |  |  |  |  |  |  |  | Маркеры-галочки |  | Маркеры-галочки | Маркеры-галочки |  |  |
| **BC 4** |  |  |  |  | Маркеры-галочки | Маркеры-галочки | Маркеры-галочки |  | Маркеры-галочки |  |  |  |  |
| **PC 1** |  |  |  |  |  | Маркеры-галочки |  | Маркеры-галочки |  | Маркеры-галочки |  |  |  |
| **PC 2** |  |  |  |  | Маркеры-галочки |  | Маркеры-галочки | Маркеры-галочки |  |  | Маркеры-галочки |  |  |
| **PC 3** |  |  |  | Маркеры-галочки | Маркеры-галочки |  |  |  |  |  | Маркеры-галочки |  |  |
| **PC 4** |  |  |  |  |  |  | Маркеры-галочки |  |  | Маркеры-галочки | Маркеры-галочки |  |  |
| **PC 5** |  |  |  |  |  |  |  |  |  |  |  | Маркеры-галочки | Маркеры-галочки |
| **PC 6** |  |  |  |  |  |  |  |  |  |  |  | Маркеры-галочки | Маркеры-галочки |

**Information about the modules / disciplines**

Top of Form

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name of the discipline** | **Discipline Summary**  **(30-50 words)** | **Number of credits** | **Number of hours** | **Formed competencies (codes)** | **Prerequisites** |
| **The cycle of general education**  **Mandatory component** | | | | | | |
| 1 | Foreign language (professional) | The purpose of professionally oriented English is to develop the professional competencies of specialists. The formation of a foreign language professionally oriented communicative competence of undergraduates allows them to integrate into the international professional environment and use professional English as a means of intercultural and professional communication. | 4 | 120 | GC3  GC5 | Academic English / Professional English IELTS 5.0-5.5 |
| 2 | History and philosophy of science | The course aims to acquire knowledge about the properties of science as a type of cognition and as a socio-cultural phenomenon in its historical development. During the acquisition of the course, the student studies both the problems of philosophical understanding of science in general and the specifics of the issues of the biological branch of scientific knowledge. The importance of the course is because the training within the magistracy of personnel capable of independent research activities requires a deep and multifaceted understanding of the philosophy of biological knowledge based on ideas about the general essence of the phenomenon of science. The course is aimed at the formation of systemic natural-science ideas for undergraduates about the interaction of a person with the natural environment, at the building of the ability to apply theoretical knowledge for their harmonization | 4 | 120 | GC 1 | History  (Bachelor’s program) |
| 3 | Pedagogy of higher education | The objectives of mastering the discipline "Higher School Pedagogy" are to provide undergraduates with knowledge about the theoretical foundations of pedagogical theory and pedagogical skills; the management of the educational process for teaching in higher education; to give an idea of ​​the main categories of pedagogy, the place, role and significance of higher education pedagogy in the system of human sciences and the practical activities of a teacher, to form an understanding of the basic principles of modern pedagogy and methodological approaches to solving the pedagogical problems of higher education. | 4 | 120 | GC6 | Pedagogy and / or psychology (Bachelor’s program) |
| 4 | Psychology of management | This discipline involves familiarizing students with the primary resource capabilities of the human factor in managing organizations in current conditions. Within the framework of the field, the psychological characteristics of management objects, both personnel and the organization, and management subjects, which are managers of different levels, are also considered to reveal the psychological mechanisms that ensure the effectiveness of management systems. | 4 | 120 | GC2  GC 4 | Psychology  (Bachelor’s program) |
| 5 | Teaching internship | Teaching internship is a type of practical activity for graduate students that includes the teaching of special disciplines, the organization of educational activities for students, scientific and methodological work on the subject, and the acquisition of skills and abilities in the work of a teacher | 4 | 120 | GC2  GC6 | Pedagogy and/or Psychology (Bachelor’s Program) |
| **Cycle of foundation subjects**  **Component of choice** | | | | | | |
| 6 | Methods and techniques for managing media projects | The purpose and objectives of the discipline are to develop the knowledge, skills, and abilities of graduate students in applying the methods and techniques of managing media projects. | 3 | 90 | BC2  BC3 | Management (Bachelor’s program) |
| 7 | Project Management Fundamentals | The purpose and objectives of the course are to get acquainted with the essence and tools of project management, which allows students to competently make decisions at different phases of the project cycle, competently perform project management functions, create a project team, and build a project structure, as well as to conduct an examination of design decisions. | 3 | 90 | BC2  BC3  PC1  PC3 | Management (Bachelor's Program) |
| 8 | Introduction to Research | This module is designed to strengthen students' scientific and cross-cutting skills, especially in relation to scientific research and communication in an English language environment. The courses cover several areas of science skills, including science communication and presentation skills, science theory, scientific methodology, and teamwork skills. | 4 | 120 | GC5  PC1 | History and Philosophy of Science |
| 9 | Research Methodology | The course is aimed at developing a broad understanding of research methodology, scientific tools, and critical reading of scientific literature in students. | 4 | 120 | GC5  BC1  PC1  PC4 | History and philosophy of science |
| 10 | Economic Analysis of Media Projects | The purpose of studying the course is to master the methods and principles of economic evaluation of investments and the acquisition by future specialists the knowledge for making effective decisions in managing media projects. | 4 | 120 | BC1  BC2  BC4 | Economic Theory (Bachelor's Program) |
| **Cycle of profile subjects**  **University component / elective component** | | | | | | |
|  |  |  |  |  |  |  |
| 11 | Product Safety | The course involves studying the basics of design, API development and web security standards and is aimed at developing skills and abilities to effectively apply the design basics in practice. | 4 | 120 | PC5  PC6 | Website reliability engineering |
| 12 | Website reliability engineering | This discipline incorporates aspects of software development and applies them to infrastructure and operations issues and studies building scalable and highly reliable software systems. | 5 | 150 | PC5  PC6 |  |
| 13 | Foundations of Art and Music | The course presents five narratives, each based on a specific strategy to help create art. These narratives are independent of discipline and thus integrate visual arts, music, literature, media arts, and more. In addition, the strategy has similarities with the strategies used in research. The course shows the different ways in which research and art form continuums. | 3 | 90 | BC1  PC1  PC2  PC4 | History/Cultural Studies/Literature (Bachelor's Program) |
| 14 | Media, Technology & Culture | The course focuses on the study of technology and technological change and considers cultural, economic and social processes as a consequence of human intellectual activity. The processes under study are analyzed through the prism of an interdisciplinary approach and theoretical tools in such areas of science as history, cultural studies, sociology, political science and economics. | 3 | 90 | BC1  PC1  PC2  PC4 | Cultural Studies/Economics/Sociology (Bachelor's Program) |
| 15 | Director’s Craft | In this course, students begin to learn the language and art of film aesthetics from the point of view of a director. They learn to combine multiple concepts from the arts, behavioral sciences, and humanities to achieve maximum psychological impact by examining the director's decisions in camera placement, blocking, staging, and visual image design. In the course, students act as not only competent directors but also persuasive storytellers, using advanced expressive visual tools and media technologies to tell their stories. Led by directors who practice the art of visual storytelling, students will learn about the unique ways that directors create scenes and choose certain angles to create complex mise-en-scène. | 3 | 90 | GC5  BC3  BC4  PC4 | Cultural Studies / Art History (Bachelor's Program) |
| 16 | Human-Computer Interaction and Visualization of Information | The course offers a study of the fundamental principles of computer interface design and human interaction and includes aspects of human perception, cognitive processes and memory, as well as concepts directly related to interface design (metaphors, widgets, window systems and object orientation). | 3 | 90 | BC1  BC2  BC3  PC3 | ICT/Computer Graphics/Web Design (Bachelor's Program) |
| 17 | Sustainable Development and Media Technology | The course aims at exploring the relationship between media technologies and sustainable development. Undergraduates  will study the basic terms and concepts of sustainable development and environmental friendliness; develop the ability to analyze the current state of affairs in the field of the media, and the impact of the media on information and communication technologies (ICT) through the prism of the society sustainability. | 3 | 90 | GC6  BC2  PC1  PC4 | Sociology/Law/Ecology (Bachelor's Program) |
| 18 | Media Lab | The course applies "centered learning" to real-life media technology problems. The work is carried out in small groups, where students, under the guidance of a teacher, acquire and apply new knowledge in the context of problem-solving based on methodological knowledge for project work. In these groups, the problem is identified, and solutions are proposed and validated by prototyping. The results of the work (video, audio, or photo production) are presented and documented. | 3 | 90 | GC2  GC6  BC2  BC3  BC4  PC2 | Journalism / Directing / Editing / Sound Engineering (Bachelor's Program) |
| 19 | Business planning for innovation and investment media projects (Business simulation) | This course teaches students to assess the market potential of business ideas. Great emphasis will be placed on studying customer behaviour, analyzing potential competitors, and understanding the external environment and its effect on the media market. All media products and support services must be designed with customers in mind and leverage their strengths to create a compelling competitive advantage. Students will conduct a strategic analysis based on market and financial forecasts. | 3 | 90 | GC6  BC1  BC3  PC3 | Entrepreneurship/Business and IT (Bachelor's Program |
| 20 | Game design theory | In this course, students begin to learn the computer Graphics, modeling for games, real-time graphics and special effects, storytelling, and character development. Particular qualities of games and how to create them: educational games, children's games, social gaming, game rules, and game experience. | 4 | 120 | GC2  GC6  BC1  BC2  BC3  BC4  PC2  PC3 | Computer Graphics/Web Design Directing / Editing / Sound Engineering (Bachelor's Program) |
| 21 | Advanced information visualization | The course covers the advanced concepts of information visualization including the visualization pipeline, data types, data transformations, data models, visual mappings, visual structures, view transformations, and evaluation techniques. Students will develop projects using web-based visualization tools. | 3 | 90 | BC1  BC2  BC3  PC3 | ICT/Computer Graphics/Web Design (Bachelor's Program) |
| 22 | Advanced Graphics and Interaction | The course involves studying the basics of Animation: animation types and methods for creating them, tools for creating 2D animation and morphing.  Rendering: mapping techniques, fractal methods for segmenting texture images.  3D, virtual environments (VR) and visualization: different 3D interaction models, 3D and VR equipment, VR capabilities and limitations, methods, tools. Visualization.  Multimodal interfaces: several modes of interaction, sound interfaces, tactile sensations.  Human visual perception system: color, perceptual graphics. | 3 | 90 | BC1  BC2  BC3  PC3 | Computer Graphics/Web Design (Bachelor's Program) |
| 23 | Research Practice | This module is designed to strengthen students' research and cross-cutting skills in an English language environment. The courses cover several areas of research skills, including research communication and presentation skills, theory of research, research methodology, and teamwork skills. | 16 | 480 | GC5  BC3  PC4 |  |
| **Research work** | | | | | | |
| 24 | Graduate Research Work, including an internship and master’s project (GRW) | The purpose of Graduate Research Work is to develop students’ ability to independently perform research work related to solving professional problems, which is necessary for further scientific and professional activities in the field of media. GRW helps to systematize, consolidate and expand theoretical knowledge, develop statistical methods in project management, and master the elements of independent research work. | 24 | 720 |  |  |
| **Final Assessment** | | | | | | |
| 25 | Design and defense of the master’s Project | The thesis is a written work that must document that the candidate is capable of independently applying scientific and practical methods to handle complex problems drawn from specific subject areas, including individual technical details and their broader implications. The thesis incorporates the competencies gained from research and applies them to the preferred dissertation topic in the same company/organization as the case study and project. It provides scientific analysis that covers the entire spectrum of the educational program and the corresponding research problem. | 12 | 360 |  |  |
|  | | | | | | |