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Approved by
Quality Management Representative

G.S. Zhetessova
04 10, 2021



METHODOLOGICAL GUIDELINES

PROCEDURE OF DEVELOPMENT AND CERTIFICATION OF DIGITAL CONTENT

KTU MG IV-09-2021

Developed by: DDUD methodologist

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Karaganda

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Effective date 2021.10.05
(year, month, date)

1 Scope

These methodological guidelines regulate the procedure of the development and certification of digital content, and is developed in accordance with the requirements of RK ST 34.017-2005 "Information Technologies. Electronic edition. Electronic educational edition" and "Rules for organizing distance learning at education institutions providing higher vocational, additional vocational education in the Republic of Kazakhstan".

This Guidelines apply to the digital content developed at KTU.

2 General provisions

Digital content is a collection of entertainment, informational materials that are distributed electronically through special channels for use on digital devices: computers, tablets, smartphones.

The object of digital content should be digital, text, graphic, audio, video and other educational information that is a collection of scientifically grounded facts, statements and rules, as well as the properties and relationships of objects, phenomena and processes studied within the framework of the training course.

Digital content should not contain the information that is directly inconsistent with the achievement of educational goals, that is, not related to the content of the training course, and distracting the user's attention.

The interface of digital content should be visual, understandable, unambiguous and presented in a form that contributes to understanding the logic of functioning as a whole and its individual parts, in order to prevent the user's wrong actions and provide him with opportunities for feedback.

Digital content is provided in the open environment and is placed in global computer networks using browser programs for work.

The following types of digital content are accepted at KTU:

- a complex of video classes is a set of videos for a specific type of classes (lectures, laboratory works, practical exercises, seminars, course work/project) supplemented with diagrams, tables, photographs and video fragments illustrating the material submitted, posted on the Internet.

- MOOC is a training course with massive interactive participation using e-learning technologies and open access to the Internet. The main characteristics of MOOC are its openness, mass character, university-level compliance, short videos, registration requirements, use of a learning management system, automated testing, peer-to-peer assessment, interactive user forums, certification. Thanks to MOOC, students can listen to lectures in advance, learn basic concepts, and conduct classes in

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the form of discussions, debates and other interactive forms of learning. The process of creating MOOC is divided into three stages: planning, developing and launching the course on the platform.

3 Requirements to the digital content composition

The video tutorials should include a title, a table of contents, a content. If these are video lectures, then there must be questions for self-control and a list of recommended literature.

The title should contain the output information: the department of the developer, the information of the author, the topic, in which discipline it was developed and for which specialties. The table of contents should show the structure and names of all semantic learning units.

The content should contain the entire volume of educational material related to its goals and objectives, and on which the final control of knowledge should be carried out. The presentation of educational material should use scientific terminology and be clear, accurate, complete and consistent.

MOOC should be broken down into relatively small, logically closed parts, sections (modules). Each section is a standard educational product that includes a clearly defined amount of knowledge and skills intended to be studied for a certain time (weeks), or a credit unit. The average number of sections (modules) in MOOC is 5–8 (the maximum number of modules is 15).

The materials for each module must include the following:

- 1) 6-10 video lectures, each 7-9 minutes long;
- 2) a test aimed at assessing the level of understanding of the module materials;
- 3) homework supposing mutual assessment by students or work on a joint project;
- 4) an exercise.

Video lectures for MOOC should be specially designed and recorded taking into account the specifics of online learning. The lectures are recorded using updated technical and software tools, which make it possible to visually better explain the concept of the lecture. The lectures should be accompanied by demonstration objects: presentations, photographs, animations and other multimedia elements. A video lecture must meet the following conditions:

- correspond to the content of the discipline's curriculum;
- consist of one or several parts no more than 7-9 minutes long (in order to estimate the duration of the lecture needs to be worked out before being recorded on video, read it aloud 2-3 times);
- not use material protected by copyright without reference to the source (music, video clips, images and photos);
- use copyrighted material only from open sources (for example, <https://ru.depositphotos.com>, <https://pixabay.com>), a link to this source is required.

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The link should be indicated next to each borrowed image (photo, table, infographics, diagram, etc.);

- sound recording must be clean.

When studying each subsection to consolidate the knowledge of students, it is necessary to provide tasks. Such tasks can be presented as test tasks. The number of test items for each block of each subsection should not exceed 10. Automated testing is used in MOOC. This method allows quick processing thousands of tests without requiring a teacher to be involved in the review.

MOOC can include a group project. As a part of the project, the interaction of students is organized in a group form, when students work at solving common problems in teams, and then post the work in the forum followed by its discussion and evaluation by other participants.

4 Requirements to the digital content design

The design of digital content should contribute to the aesthetic and convenient presentation of the educational material for its easy assimilation. In this case, the number of words should be limited so that the volume of text material does not tire the student.

Digital content must be accompanied by demonstration material, one of which is a presentation. Presentation slides should have a clear structure for the corresponding program. The number of slides approximately corresponds to the length of the report in minutes (for one video recording in MOOC 7-15 minutes).

It is important to remember that a "presentation" is not the lecture text placed on the slides of the corresponding program, but a way to visually present the educational material. In the design of presentations, two blocks are distinguished: the design of the slides and the presentation of information on them.

The slide design should:

- 1) maintain a consistent style for your slides;
- 2) try to refrain from using a colored background - this makes it difficult to read and perceive the text, especially from the screen;
- 3) not to use shadows, as the clarity of information presentation decreases;
- 4) use animation capabilities;
- 5) take for one slide 1 minute on the average.

Graphics in digital content should be of secondary importance and facilitate easy assimilation of educational material, and not distract from learning. It is necessary to very carefully select drawings when publishing religious, political and other materials related to national and cultural characteristics.

The presentation of information in MOOC is more clearly regulated than for video tutorials. The requirements include the following:

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- 1) each slide should have a title (use short words and sentences, minimize the number of prepositions, adverbs, adjectives);
- 2) the slide should have between 20 and 40 words (a reasonable maximum is 80 words);
- 3) use short sentences or phrases;
- 4) do not hyphenate words on slides;
- 5) do not use solid text on slides;
- 6) use numbered and bulleted lists (do not use the nesting level in lists deeper than two);
- 7) use diagrams and diagrams;
- 8) use illustrations in the presentation that correspond to the stated topic (they should not serve as a means of "attracting attention", but as a way to visually present information);
- 9) fonts must be sans-serif: for headings at least 24, for information at least 18;
- 10) place no more than 10-15 lines of text on a slide;
- 11) do not use decorative, handwritten fonts for body text and headings.

5 Procedure of certification

Within the academic year, teachers of Karaganda Technical University develop and submit digital content for certification in accordance with the approved calendar schedule.

For certification, the head of the department sends a corresponding memorandum, a petition (see Appendix A) in the electronic document management system (hereinafter EDMS) Directum to the Department of the Digital University Development (hereinafter DDUD) with the approval of the Chairman of the Quality Assurance Committee (hereinafter referred to as QAC) of the faculty. The DDUD employees check the functional and technical part of digital content for compliance with the established requirements. At the end of the check, a technical review is issued with a detailed indication of comments and recommendations to the authors. The term for checking the digital content of the DDUD for MOOC is 5 working days from the date of receipt of the application for certification, for video classes in 1 working day for each topic of the complex, starting from the day of verification (the date of the start of the verification does not correspond to the date of receipt of the application, all video lessons are checked in the order of receipt). The authors of digital content can track, if necessary, the verification process of submitted works by reviewing the application sent to the Directum EDMS in the Outgoing folder for approval (links to verified videos are highlighted in yellow if there are no comments, in red if any). A review with a detailed indication of the comments is posted on the KTU website <http://www.kstu.kz/> in the section Education - Electronic educational

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resources - Status log, which is notified to the head of the department in the Directum EDMS at the end of the check.

The deadline for elimination of comments by the authors of digital content is 30 calendar days from the date of receipt of the review. In case of correct elimination of all defects of the DDUD, a certificate of the established form is issued in the language of digital content development (see Appendix B). This certificate is assigned an identification number and is signed by the members of the commission, which include the first vice-rector of KTU and the chairman of the faculty QAC. The certificate is certified by the seal of NLC KTU.

6 Coordination and enforcement

Coordination of these MG made in accordance with KTU DP II-01 and is registered in the Coordination sheet (Appendix B).

7 Safekeeping

These MG should be stored in accordance with KTU DP II-01.

8 Amendments to the document

Amendments to these MG should be made in accordance with KTU DP II-01.

9 Copying and distribution

Copying and distributing these MG should be made in accordance with KTU DP II-01.

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Appendix A (informative)

Petition form

**To the DDUD Director,
PhD Amirov A.Zh.**

Of the _____ department

Petition

I ask for certification *Select the type of digital content called Enter the name in the language of development by discipline(s) Enter the discipline in the language of development for the specialty/educational program(s) Enter the code and "name" in the language of development.*

Specify the type of classes in case of certification of a complex of video classes, the class type, as well as the number of video classes to be taken in this discipline. Number of video classes.

Provide the link(s) to MOOC on the Moodle platform or video tutorial on cathedral Youtube channel. *Place to insert links.*

Authors:

Enter the name of the author 1.

Enter the name of the author 2.

Enter the name of the author 3.

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Appendix B (mandatory)

F.MG-IV-09-01

Certificate forms

ҚарТУ | KTU | ҚарТУ

1953

Ф.МН-IV-09-01

СЕРТИФИКАТ

№ _____ " ____ " 20__ ж.

Осы сертификатпен «ҚарТУ» КЕАҚ:

ЖАППАЙ АШЫҚ ОНЛАЙН КУРСЫ

_____ кафедрасында әзірленді

Тиісті тексеруден және тестілеуден сәтті өтті.

_____ пәні бойынша оқу сабақтарында қолдануға рұқсат етіледі

_____ мамандығы (-тары)/білім беру бағдарламасы (-лары) үшін қуәландырады

КОМИССИЯ МҮШЕЛЕРІ:

Бірінші проректор

_____ (қолы-жаны)

_____ (орны)

Факультеттің СКК-нің төрағасы

_____ (қолы-жаны)

_____ (орны)

АВТОРЛАР:

_____ (қолы-жаны)

_____ (орны)

_____ (қолы-жаны)

_____ (орны)

_____ (қолы-жаны)

_____ (орны)

ҚарТУ | KTU | KarTU


1953

Ф.МН-IV-09-04

СЕРТИФИКАТ

№ _____ " ____ " 20 ____ ж.

Осы сертификатпен «ҚарТУ» КЕАҚ:

ВИДЕО САБАҚТАР КЕШЕНІНІҢ саны _____
_____ кафедрасында әзірленді
Тиісті тексеруден сәтті өтті.

_____ пәні бойынша оқу сабақтарында _____
қолдануға рұқсат етіледі

_____ мамандығы (-тары)/білім беру бағдарламасы (-лары) үшін куәландырады

КОМИССИЯ МҮШЕЛЕРІ:	АВТОРЛАР:
<i>Бірінші проректор</i>	
_____ (қолы-жазылы)	_____ (қолы-жазылы)
_____ (қолы)	_____ (қолы)
	_____ (қолы-жазылы)
<i>Факультеттің СҚК-нің төрағасы</i>	_____ (қолы)
_____ (қолы-жазылы)	_____ (қолы-жазылы)
_____ (қолы)	_____ (қолы)

ҚарТУ | KTU | ҚарТУ


1953

Ф.МИ-IV-09-02

СЕРТИФИКАТ

№ _____ " ____ " 20__ г.

**Настоящим сертификатом НАО «ҚарТУ» удостоверяет:
МАССОВЫЙ ОТКРЫТЫЙ ОНЛАЙН-КУРС**

Разработан на кафедре _____

Успешно прошёл надлежащую проверку и тестирование.
Разрешается использование в учебных занятиях по дисциплине _____

для специальности (-ей)/образовательной (-ых) программы (-м) _____

ЧЛЕНЫ КОМИССИИ:

Первый проректор

(подпись)

Председатель КОК факультета

(подпись)

АВТОРЫ:

(подпись)

(подпись)

(подпись)

(подпись)

(подпись)

(подпись)

ҚарТУ | KTU | ҚарТУ


1953

Ф.МИ-IV-09-05

СЕРТИФИКАТ

№ _____ " ____ " 20__ г.

**Настоящим сертификатом НАО «ҚарТУ» удостоверяет:
КОМПЛЕКС ВИДЕОУРОКОВ в количестве ____ видео**

Разработан на кафедре _____

Успешно прошёл надлежащую проверку. Разрешается использование
в учебных занятиях типа _____ по дисциплине _____

для специальности (-ей)/образовательной (-ых) программы (-м)

ЧЛЕНЫ КОМИССИИ:

Первый проректор

(подпись)

Председатель КОК факультета

(подпись)

АВТОРЫ:

(подпись)

(подпись)

(подпись)

(подпись)

(подпись)

(подпись)

KapTY | KTU | KapTY
1953
Ф.МН-IV-09-03

CERTIFICATE

№ _____ "___" ____ 20__

**NJSC KTU certifies hereby that:
MASSIVE OPEN ONLINE COURSE**

Developed at the department of _____

successfully passed proper validation and testing.
It is permitted to be used in training sessions in discipline _____

for specialty(s)/educational program(s) _____

MEMBERS OF THE COMMISSION: THE AUTHORS:

First Vice-rector

(full name)

(signature)

Chairman of the faculty QAC

(full name)

(signature)

(full name)


(signature)

(full name)

(signature)

(full name)

(signature)

<p>KapTY KTU KapTY</p>  <p>1953</p>		<p>Φ.MH-IV-09-06</p>
<h1>CERTIFICATE</h1>		
<p>№ _____</p>	<p>" " _____</p>	<p>20 _____</p>
<p>NJSC KTU certifies hereby that: COMPLEX OF VIDEO CLASSES in the amount of _____ video</p>		
<p>Developed at the department of _____</p>		
<p>successfully passed proper validation. It is permitted to be used in training sessions _____ in discipline _____</p>		
<p>for specialty(s)/educational program(s) _____</p>		
<p>MEMBERS OF THE COMMISSION: THE AUTHORS:</p>		
<p><i>First Vice-rector</i></p>		
<p>_____ (full name)</p>		<p>_____ (full name)</p>
<p>_____ (signature)</p>		<p>_____ (signature)</p>
<p><i>Chairman of the faculty QAC</i></p>		<p>_____ (full name)</p>
<p>_____ (full name)</p>		<p>_____ (signature)</p>
<p>_____ (signature)</p>		<p>_____ (full name)</p>
		<p>_____ (signature)</p>

F. 04 - 2020

[illegible]

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Appendix D (mandatory)

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Familiarization sheet

[illegible]