

Министерство науки и высшего образования Российской Федерации  
НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ  
ТОМСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ (НИ ТГУ)

Механико-математический факультет

УТВЕРЖДЕНО:  
Декан ММФ  
Л.В. Гензе

Оценочные материалы по дисциплине

**Основы LaTeX**

по направлению подготовки

**01.04.01 Математика**

Направленность (профиль) подготовки:  
**Математический анализ и моделирование**  
**(Mathematical Analysis and Modeling)**

Форма обучения  
**Очная**

Квалификация  
**Магистр**

Год приема  
**2023**

СОГЛАСОВАНО:  
Руководитель ОП  
А.В. Старченко

Председатель УМК  
Е.А. Тарасов

Томск – 2023

Ministry of Science and Higher Education of the Russian Federation  
NATIONAL RESEARCH UNIVERSITY  
TOMSK STATE UNIVERSITY (NI TSU)

Faculty of Mechanics and Mathematics

APPROVED BY:  
Dean of the FMM  
L. V. Genze

Assessment materials for the discipline

**LaTeX Soft**

by training area

**01.04.01 Mathematics**

Orientation (profile) of training:  
**Mathematical Analysis and Modeling**

Form of training  
**Full-time**

Qualification  
**Master**

Year of admission  
**2023**

AGREED:  
Head of the EP  
A.V. Starchenko

Chairman of the CMD  
E.A. Tarasov

Tomsk-2023

## **1. Competencies and indicators of their achievement, verified by these assessment materials**

The purpose of mastering the discipline is to develop the following competencies:

PC-2 is capable of presenting scientific (scientific and technical) results to the professional community.

UC-4 is able to apply modern communication technologies, including in a foreign language, for academic and professional interaction.

The results of mastering the discipline are the following indicators of competence achievement:

PCI 2.2 Demonstrates the ability to prepare a text for publication based on the results of scientific research

UCI 4.2 uses modern means of communication to improve the effectiveness of academic and professional interaction, including in a foreign language.

## **2. Evaluation materials of the current control and evaluation criteria**

Current control of the discipline is carried out by monitoring attendance.

## **3. Evaluation materials of the final control (intermediate attestation) and evaluation criteria**

To pass the intermediate certification, the student must choose either to create a compiled LaTeX-file with their own research report containing automatic numbering of theorem-like structures, cross-citation and automatic references to sources from the list of references, or to create a compiled LaTeX-file containing automatic numbering of theorem-like structures, cross-citation and automatic references to sources from the list of references, based on a scientific article proposed by the teacher (checked by PCI 2.2 and UCI 4.2).

If the student has attended no more than 50% of classes, then they also need to pass a test (checked by PCI 2.2 and UCI 4.2).

Intermediate certification is carried out according to the following criteria:

Assessment	Compliance criteria
counted	<p>If the student attended no more than 50% of classes:</p> <ol style="list-style-type: none"><li>1) the student correctly answered at least three questions of the test or scored at least five points;</li><li>2) the student creates a compiled LaTeX-document containing automatic numbering of theorem-like structures, cross-quoting and automatic references to sources from the list of references</li></ol> <p>If the student attended more than 50% of classes:</p> <ul style="list-style-type: none"><li>- the student creates a compiled LaTeX-document containing automatic numbering of theorem-like structures, cross-quoting and automatic references it contains automatic numbering of theorem-like structures, cross-citation, and automatic references to sources from the list of references</li></ul>
not counted	<p>If the student attended no more than 50% of classes:</p> <ol style="list-style-type: none"><li>1) the student answered correctly less than three questions of the test and scored less than five points</li></ol> <p>, or</p> <ol style="list-style-type: none"><li>2) the student was unable to create a compiled LaTeX-document containing automatic numbering of theorem-like structures, cross-quoting, and automatic references to sources from the list of references</li></ol>

	<p>If the student attended more than 50% of classes:</p> <ul style="list-style-type: none"> <li>- the student was unable to create a compiled LaTeX document containing automatic numbering of theorem-like structures, cross-quoting, and automatic references to sources from the list of references.</li> <li>t is a compiled LaTeX-document containing automatic numbering of theorem-like structures, cross-citation, and automatic references to sources from the list of references</li> </ul>
--	---

Examples of test questions:

**Question 1.**

*Establish a correspondence between the software and its type*

1	TeX	a	LaTeXeditor
2	MacTeX	b	computer layout system
3	TeXstudio	in	дистрибутив с LaTeX distribution
4	AMS-LaTeX	d	макропакет tex macro package

**Question 2.** Choose one correct answer.

*To define theorem-like structures, use the command*

1. `\newtheorem`
2. `\newcommand`
3. `\theorem`
4. `\addtocounter`

**Question 3.** Choose several correct answers.

*Select Partitioning commands*

1. `\smallskip`
2. `\subparagraph`
3. `\section`
4. `\LARGE`

**Question 4.** Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `$$ ... $$`
2. `\begin{table} ... \end{table}`
3. `\begin{verbatim} ... \end{verbatim}`
4. `\begin{enumerate} ... \end{enumerate}`

**Question 5.**

*Set a match between the character and the command that prints it*

1	$\in$	a	<code>\subset</code>
2	$\notin$	b	<code>\in</code>
3	$\subset$	in	<code>c\subset</code>
4	$\supset$	d	<code>\notin</code>

**Instructions for completing test tasks**

According to the structure of response generation, the following types of tasks are distinguished:

- **single-choice tests** - provide for the selection of one correct answer from several suggested options.

- **multiple choice tests** - involve choosing several (possibly one) correct answers from a number of suggested ones.

- **match recovery tests** - involve restoring a match between elements of two sets.

Before completing a task, carefully read its wording and suggested answers. Answer only after you have understood the question and analyzed all possible answers.

Test tasks are evaluated in points. Upon completion of testing, the points are added up. If you complete the test tasks correctly, you can get a maximum of 8 points.

#### 4. Assessment materials for checking residual knowledge (competence formation)

Test (checked by PCI 2.2 and UCI 4.2).

### Option 1

#### Question 1.

*Establish a correspondence between the software and its type*

1	TeX	a	LaTeX editor
2	MiKTeX	b	LaTeX distribution
3	TeXstudio	c	computer layout system
4	LaTeX	d	TEX macro package

#### Question 2. Choose one correct answer.

*To connect packages, use the command*

1. `\use{ }`
2. `\package{ }`
3. `\usepackage{ }`
4. `\usefont{ }`

#### Question 3. Choose several correct answers.

*Select Partitioning commands*

1. `\section`
2. `\chapter`
3. `\Large`
4. `\bigskip`

#### Question 4. Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `\begin{document} ... \end{document}`
2. `\begin{enumerate} ... \end{enumerate}`
3. `\begin{verbatim} ... \end{verbatim}`
4. `\begin{math} ... \end{math}`

#### Question 5.

*Set a match between the character and the command that prints it*

1	$\pm$	a	<code>\times</code>
2	$\mp$	b	<code>\mp</code>
3	$\times$	c	<code>\div</code>
4	$\div$	d	<code>\pm</code>

### Option 2

**Question 1.**

*Establish a correspondence between the software and its type*

1	TeX	a	LaTeX distribution
2	TeXLive	b	LaTeX editor
3	Texmaker	c	computer layout system
4	AMS-LaTeX	d	tex macro package

**Question 2.** Choose one correct answer.

*To define new commands, use the command*

1. `\renewcommand`
2. `\newcommand`
3. `\newenvironment`
4. `\newcounter`

**Question 3.** Choose several correct answers.

*Select Partitioning commands*

1. `\section`
2. `\tiny`
3. `\paragraph`
4. `\bigskip`

**Question 4.** Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `\begin{verbatim} ... \end{verbatim}`
2. `\begin{list} ... \end{list}`
3. `\begin{displaymath} ... \end{displaymath}`
4. `\begin{document} ... \end{document}`

**Question 5.**

*Set a match between the character and the command that prints it*

1	$\int$	a	<code>\iint</code>
2	$\iint$	b	<code>\int</code>
3	$\Sigma$	c	<code>\prod</code>
4	$\Pi$	d	<code>\sum</code>

**Option 3****Question 1.**

*Establish a correspondence between the software and its type*

1	LaTeX	a	LaTeX editor
2	proTeXt	b	LaTeX distribution
3	TeXnicCenter	c	computer layout system
4	TeX	d	макропакет tex macro package

**Question 2.** Choose one correct answer.

*To override existing commands, use the command*

1. `\newcounter`
2. `\newcommand`
3. `\newenvironment`
4. `\renewcommand`

**Question 3.** Choose several correct answers.

*Select Partitioning commands*

1. `\bigskip`
2. `\tiny`
3. `\paragraph`
4. `\chapter`

**Question 4.** Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `\begin{itemize} ... \end{itemize}`
2. `$ ... $`
3. `\begin{document} ... \end{document}`
4. `\begin{verbatim} ... \end{verbatim}`

**Question 5.**

*Set a match between the character and the command that prints it*

1	$\approx$	a	<code>\neq</code>
2	$\simeq$	b	<code>\sim</code>
3	$\neq$	c	<code>\approx</code>
4	$\sim$	d	<code>\simeq</code>

### Option 4

**Question 1.**

*Establish a correspondence between the software and its type*

1	TeX	a	LaTeXeditor
2	MacTeX	b	computer layout system
3	TeXstudio	c	LaTeX distribution
4	AMS-LaTeX	d	tex macro package

**Question 2.** Choose one correct answer.

*To define theoremsof op-like structures, use the command*

1. `\newtheorem`
2. `\newcommand`
3. `\theorem`
4. `\addtocounter`

**Question 3.** Choose several correct answers.

*Select Partitioning commands*

1. `\smallskip`

2. `\subparagraph`
3. `\section`
4. `\LARGE`

**Question 4.** Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `$$ ... $$`
2. `\begin{table} ... \end{table}`
3. `\begin{verbatim} ... \end{verbatim}`
4. `\begin{enumerate} ... \end{enumerate}`

**Question 5.**

*Set a match between the character and the command that prints it*

1	$\in$	a	<code>\subset</code>
2	$\notin$	b	<code>\in</code>
3	$\subset$	c	<code>\subset</code>
4	$\supset$	d	<code>\notin</code>

### Option 5

**Question 1.**

*Establish a correspondence between the software and its type*

1	TeX	a	tex macro package
package 2	MiKTeX	b	LaTeX distribution
distribution 3	Texmaker	c	computer layout system
4	LaTeX	d	LaTeX editor

**Question 2.** Choose one correct answer.

*To generate the document content, use the command*

1. `\table`
2. `\contents`
3. `\list`
4. `\tableofcontents`

**Question 3.** Choose several correct answers.

*Select Partitioning commands*

1. `\paragraph`
2. `\huge`
3. `\medskip`
4. `\subsection`

**Question 4.** Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `\begin{equation} ... \end{equation}`
2. `\begin{document} ... \end{document}`
3. `\begin{center} ... \end{center}`

4. `\begin{list} ... \end{list}`

**Question 5.**

*Set a match between the character and the command that prints it*

1	$\sphericalangle$	a	<code>\sim</code>
2	$\perp$	b	<code>\perp</code>
3	$\parallel$	c	<code>\angle</code>
4	$\sim$	d	<code>\parallel</code>

**Option 6**

**Question 1.**

*Establish a correspondence between the software and its type*

1	TeXLive	a	LaTeX editor
2	AMS-LaTeX	b	LaTeX distribution
3	TeXnicCenter	c	computer layout system
4	TeX	d	TEX macro package

**Question 2.** Choose one correct answer.

*Use the command to underline text*

1. `\overline`
2. `\underline`
3. `\hline`
4. `\line`

**Question 3.** Choose several correct answers.

*Select the font size change commands*

1. `\bigskip`
2. `\normalsize`
3. `\paragraph`
4. `\large`

**Question 4.** Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `\begin{flushleft} ... \end{flushleft}`
2. `\begin{equation*} ... \end{equation*}`
3. `\begin{document} ... \end{document}`
4. `\begin{figure} ... \end{figure}`

**Question 5.**

*Set a match between the character and the command that prints it*

1	$\rightarrow$	a	<code>\Leftrightarrow</code>
2	$\Leftarrow$	b	<code>\Leftarrow</code>
3	$\Leftrightarrow$	c	<code>\rightarrow</code>
4	$\mapsto$	d	<code>\mapsto</code>

## Option 7

### Question 1.

*Establish a correspondence between the software and its type*

1	TeXstudio	a	LaTeX editor
2	TeX	b	LaTeX distribution
3	proTeXt	c	computer layout system
4	LaTeX	d	TEX macro package

### Question 2.

Choose one correct answer.

*Bold text is given by the command*

1. `\overline`
2. `\underline`
3. `\textbf`
4. `\textit`

### Question 3.

Choose several correct answers.

*Select the font size change commands*

1. `\Large`
2. `\textit`
3. `\LARGE`
4. `\section`

### Question 4.

Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `\begin{flushright} ... \end{flushright}`
2. `\begin{description} ... \end{description}`
3. `\begin{multline*} ... \end{multline*}`
4. `\begin{tabbing} ... \end{tabbing}`

### Question 5.

*Set a match between the character and the command that prints it*

1	$\cap$	a	<code>\setminus</code>
2	$\cup$	b	<code>\cup</code>
3	$\backslash$	c	<code>\sqcup</code>
4	$\sqcup$	d	<code>\cap</code>

## Option 8

### Question 1.

*Establish a correspondence between the software and its type*

1	TeX	a	computer layout system
2	MacTeX	b	LaTeX distribution
3	Texmaker	c	LaTeX-editor
4	AMS-LaTeX	d	tex macro package

**Question 2.** Choose one correct answer.

*Italics are given to the text by the command*

1. `\overline`
2. `\underline`
3. `\textbf`
4. `\textit`

**Question 3.** Choose several correct answers.

*Select the font size change commands*

1. `\LARGE`
2. `\subsection`
3. `\paragraph`
4. `\large`

**Question 4.** Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `\begin{flushright} ... \end{flushright}`
2. `\begin{tabular} ... \end{tabular}`
3. `\begin{figure} ... \end{figure}`
4. `\begin{multline} ... \end{multline}`

**Question 5.**

*Set a match between the character and the command that prints it*

1	$\infty$	a	<code>\exists</code>
2	$\aleph$	b	<code>\infty</code>
3	$\exists$	c	<code>\forall</code>
4	$\forall$	d	<code>\aleph</code>

### Option 9

**Question 1.**

*Establish a correspondence between the software and its type*

1	TeX	a	LaTeX editor
2	MiKTeX	b	tex macro package
package 3	LaTeX	c	computer layout system
4	TeXnicCenter	d	LaTeX distribution

**Question 2.** Choose one correct answer.

*A vertical space is inserted by the command*

1. `\hspace`
2. `\vspace`
3. `\space`
4. `\vert`

**Question 3.** Choose several correct answers.

*Select the font size change commands*

1. `\section`
2. `\Large`
3. `\Huge`
4. `\paragraph`

**Question 4.** Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `\[ ... \]`
2. `\begin{document} ... \end{document}`
3. `\begin{center} ... \end{center}`
4. `\begin{list} ... \end{list}`

**Question 5.**

*Set a match between the character and the command that prints it*

1	$\emptyset$	a	<code>\Gamma</code>
2	$\nabla$	b	<code>\nabla</code>
3	$\gamma$	c	<code>\emptyset</code>
4	$\Gamma$	d	<code>\gamma</code>

### Option 10

**Question 1.**

*Establish a correspondence between the software and its type*

1	TeXLive	a	LaTeX editor
2	TeX	b	LaTeX distribution
3	TeXstudio	c	tex macro package
package 4	AMS-LaTeX	d	computer layout system

**Question 2.** Choose one correct answer.

*A horizontal space is inserted by the command*

1. `\hspace`
2. `\vspace`
3. `\space`
4. `\horiz`

**Question 3.** Choose several correct answers.

*Select the font size change commands*

1. `\huge`
2. `\normalsize`
3. `\chapter`
4. `\subsection`

**Question 4.** Choose one correct answer.

*The procedure is used for formatting mathematical formulas*

1. `\begin{flushleft} ... \end{flushleft}`
2. `\( ... \)`

3. `\begin{document} ... \end{document}`

4. `\begin{figure} ... \end{figure}`

**Question 5.**

*Set a match between the character and the command that prints it*

1	*	a	<code>\ast</code>
2	◦	b	<code>\ldots</code>
3	...	c	<code>\circ</code>
4	·	d	<code>\cdot</code>

## the answers

### Option 1

**Question 1.** Correct answer:

1	2	3	4
c	b	a	d

**Question 2.** Correct answer: 3.

**Question 3.** Correct answer: 1, 2.

**Question 4.** Correct answer: 4.

**Question 5.** Correct answer:

1	2	3	4
d	b	a	c

### Option 2

**Question 1.** Correct answer:

1	2	3	4
c	a	b	d

**Question 2.** Correct answer: 2.

**Question 3.** Correct answer: 1, 3.

**Question 4.** Correct answer: 3.

**Question 5.** Correct answer:

1	2	3	4
b	a	d	c

### Option 3

**Question 1.** Correct answer:

1	2	3	4
d	b	a	c

**Question 2.** Correct answer: 4.

**Question 3.** Correct answer: 3, 4.

**Question 4.** Correct answer: 2.

**Question 5.** Correct answer:

1	2	3	4
c	d	a	b

### Option 4

**Question 1.** Correct answer:

1	2	3	4
b	c	a	d

**Question 2.** Correct answer: 1.

**Question 3.** Correct answer: 2, 3.

**Question 4.** Correct answer: 1.

**Question 5.** Correct answer:

1	2	3	4
b	d	c	a

### Option 5

Question 1. Correct answer:

1	2	3	4
a	b	d	c

Question 2. Correct answer: 4.

Question 3. Correct answer: 1, 4.

Question 4. Correct answer: 1.

Question 5. Correct answer:

1	2	3	4
c	b	d	a

### Option 6

Question 1. Correct answer:

1	2	3	4
b	d	a	c

Question 2. Correct answer: 2.

Question 3. Correct answer: 2, 4.

Question 4. Correct answer: 2.

Question 5. Correct answer:

1	2	3	4
c	b	a	d

### Option 7

Question 1. Correct answer:

1	2	3	4
a	c	b	d

Question 2. Correct answer: 3.

Question 3. Correct answer: 1, 3.

Question 4. Correct answer: 3.

Question 5. Correct answer:

1	2	3	4
d	b	a	c

### Option 8

Question 1. Correct answer:

1	2	3	4
a	b	c	d

Question 2. Correct answer: 4.

Question 3. Correct answer: 1, 4.

Question 4. Correct answer: 4.

Question 5. Correct answer:

1	2	3	4
b	d	a	c

### Option 9

**Question 1.** Correct answer:

1	2	3	4
c	d	b	a

**Question 2.** Correct answer: 2.

**Question 3.** Correct answer: 2, 3.

**Question 4.** Correct answer: 1.

**Question 5.** Correct answer:

1	2	3	4
c	b	d	a

### Option 10

**Question 1.** Correct answer:

1	2	3	4
b	d	a	c

**Question 2.** Correct answer: 1.

**Question 3.** Correct answer: 1, 2.

**Question 4.** Correct answer: 2.

**Question 5.** Correct answer:

1	2	3	4
a	c	b	d

### Instructions for completing test tasks

According to the structure of response generation, the following types of tasks are distinguished:

- *single-choice tests* - provide for the selection of one correct answer from several suggested options.

- *multiple choice tests* - involve choosing several (possibly one) correct answers from a number of suggested ones.

- *match recovery tests* - involve restoring a match between elements of two sets.

Before completing a task, carefully read its wording and suggested answers. Answer only after you have understood the question and analyzed all possible answers.

Test tasks are evaluated in points. Upon completion of testing, the points are added up. If you complete the test tasks correctly, you can get a maximum of 8 points.

### Maximum score for completing tasks

Question	Score
1	2
2	1
3	2
4	1
5	2

### Information about developers

Genze Leonid Vladimirovich, Ph. D., Associate Professor of the Department of Mathematical Analysis and Function Theory