

Approved

Vice-rector for research and  
academic affairs

Oleksandr HOLOVKO

V.N. Karazin Kharkiv National University

## Working curriculum

2026 year of admission

level of higher education second (master's) E Natural science, mathematics and statistics specialty E7 Mathematics

(the name of the level of higher education)

(code and Field of Study)

(code and spc)

Educational-research program Pure Mathematics (the English language of instruction)

(Title of the Program)

Year 1 (first) Form of education

full-time

(year of studies)

(full-time, by correspondence, distance)

## I. TIME-TABLE OF EDUCATIONAL PROCESS

| TIME TABLE OF EDUCATIONAL PROCESS |           |   |   |   |         |   |   |   |          |    |    |    |          |    |    |    |         |    |    |    |          |    |    |    |       |    |    |    |       |    |    |    |     |    |    |    |      |    |    |    |      |    |    |    |        |    |    |    |    |    |    |   |
|-----------------------------------|-----------|---|---|---|---------|---|---|---|----------|----|----|----|----------|----|----|----|---------|----|----|----|----------|----|----|----|-------|----|----|----|-------|----|----|----|-----|----|----|----|------|----|----|----|------|----|----|----|--------|----|----|----|----|----|----|---|
| Year                              | September |   |   |   | October |   |   |   | November |    |    |    | December |    |    |    | January |    |    |    | February |    |    |    | March |    |    |    | April |    |    |    | May |    |    |    | June |    |    |    | July |    |    |    | August |    |    |    |    |    |    |   |
|                                   | 1         | 2 | 3 | 4 | 5       | 6 | 7 | 8 | 9        | 10 | 11 | 12 | 13       | 14 | 15 | 16 | 17      | 18 | 19 | 20 | 21       | 22 | 23 | 24 | 25    | 26 | 27 | 28 | 29    | 30 | 31 | 32 | 33  | 34 | 35 | 36 | 37   | 38 | 39 | 40 | 41   | 42 | 43 | 44 | 45     | 46 | 47 | 48 | 49 | 50 | 51 |   |
| 1                                 | T         | T | T | T | T       | T | T | T | T        | T  | T  | T  | T        | T  | T  | E  | E       | E  | E  | V  | V        | V  | V  | T  | T     | T  | T  | T  | T     | T  | T  | T  | T   | T  | T  | T  | T    | E  | E  | E  | E/V  | V  | V  | V  | V      | V  | V  | V  | V  | V  | V  | V |

NOTATIONS: T - theoretical studies; E - examinations; P - practical training; V – vacations // - certification examination; D- thesis preparation and defence

| # by order | COURSES AND RESEARCH WORKS                                                                                                               | Amount of ECTS- credits | Amount of academic hours |               |                         |                                         | I-st Semester 16 academic weeks |                   |            |      |          |                  |       |            |                         |                             |                |            |                  |                   |       |              | II-nd Semester 16 academic weeks |      |          |                  |          |            |                         |                             |                |            |                  |                    |  |  |  |  | Department |
|------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------|---------------|-------------------------|-----------------------------------------|---------------------------------|-------------------|------------|------|----------|------------------|-------|------------|-------------------------|-----------------------------|----------------|------------|------------------|-------------------|-------|--------------|----------------------------------|------|----------|------------------|----------|------------|-------------------------|-----------------------------|----------------|------------|------------------|--------------------|--|--|--|--|------------|
|            |                                                                                                                                          |                         | According to plan        | Actual amount | Passed in previous year | Allocated for the current academic year | total                           | Class hours       |            |      |          | Self-preparation | Tests | Colloquium | Individual tests        |                             |                |            | Evaluation scale |                   | total | Class hours  |                                  |      |          | Self-preparation | Tests    | Colloquium | Individual tests        |                             |                |            | Evaluation scale |                    |  |  |  |  |            |
|            |                                                                                                                                          |                         |                          |               |                         |                                         |                                 | Total class hours | including: |      |          |                  |       |            | abstracts, translations | computational-graphic works | research works | Four-level | Two-level        | Total class hours |       | в тому числі |                                  |      |          |                  |          |            | abstracts, translations | computational-graphic works | research works | Four-level | Two-level        |                    |  |  |  |  |            |
|            |                                                                                                                                          |                         |                          |               |                         |                                         |                                 |                   | Lectures   | Labs | Seminars |                  |       |            |                         |                             |                |            |                  |                   |       | Tutorials    | Lectures                         | Labs | Seminars |                  |          |            |                         |                             |                |            |                  | Tutorials          |  |  |  |  |            |
|            |                                                                                                                                          |                         |                          |               |                         |                                         |                                 |                   |            |      |          |                  |       |            |                         |                             |                |            |                  |                   |       |              |                                  |      |          |                  |          |            |                         |                             |                |            |                  |                    |  |  |  |  |            |
| 1          | Basics of scientific research                                                                                                            | 3                       | 90                       | 90            |                         | 90                                      | 90                              | 32                | 32         |      |          |                  | 58    |            |                         |                             |                |            | x                |                   |       |              |                                  |      |          |                  |          |            |                         |                             |                |            | Pure Mathematics |                    |  |  |  |  |            |
| 2          | Algebra II                                                                                                                               | 6                       | 180                      | 180           |                         | 180                                     | 180                             | 64                | 32         |      |          | 32               | 116   | 1          |                         |                             | 1              |            | x                |                   |       |              |                                  |      |          |                  |          |            |                         |                             |                |            | Pure Mathematics |                    |  |  |  |  |            |
| 3          | Functional analysis II                                                                                                                   | 6                       | 180                      | 180           |                         | 180                                     | 180                             | 64                | 32         |      |          | 32               | 116   | 1          |                         |                             | 1              |            | x                |                   |       |              |                                  |      |          |                  |          |            |                         |                             |                |            | Pure Mathematics |                    |  |  |  |  |            |
| 4          | Parial differential equations                                                                                                            | 6                       | 180                      | 180           |                         | 180                                     | 180                             | 64                | 32         |      |          | 32               | 116   | 1          |                         |                             | 1              |            | x                |                   |       |              |                                  |      |          |                  |          |            |                         |                             |                |            | Pure Mathematics |                    |  |  |  |  |            |
| 5          | Differential geometry of manifolds                                                                                                       | 6                       | 180                      | 180           |                         | 180                                     | 180                             | 64                | 32         |      |          | 32               | 116   | 1          |                         |                             | 1              |            | x                |                   |       |              |                                  |      |          |                  |          |            |                         |                             |                |            | Pure Mathematics |                    |  |  |  |  |            |
| 6          | Modern theory of optimal control                                                                                                         | 6                       | 180                      | 180           |                         | 180                                     |                                 |                   |            |      |          |                  |       |            |                         |                             |                |            |                  |                   | 180   | 64           | 32                               |      | 32       | 116              | 1        |            |                         |                             |                | x          |                  | Applied Matematics |  |  |  |  |            |
| 7          | Probability theory II                                                                                                                    | 6                       | 180                      | 180           |                         | 180                                     |                                 |                   |            |      |          |                  |       |            |                         |                             |                |            |                  |                   | 180   | 48           | 32                               |      | 16       | 132              | 1        |            |                         | 1                           |                | x          |                  | Pure Mathematics   |  |  |  |  |            |
| 8          | Spectral theory of operators / Partial differential equations (II) / Lie groups and homogeneous spaces / Introduction to p-adic analysis | 12                      | 360                      | 360           |                         | 360                                     |                                 |                   |            |      |          |                  |       |            |                         |                             |                |            |                  |                   | 360   | 128          | 64                               |      | 64       | 232              | 1/ sub j |            |                         |                             |                | x,x        |                  | Pure Mathematics   |  |  |  |  |            |
| 9          | Master's Seminar                                                                                                                         | 3                       | 90                       | 90            |                         | 90                                      |                                 |                   |            |      |          |                  |       |            |                         |                             |                |            |                  |                   | 90    | 48           |                                  | 48   |          | 48               |          |            |                         |                             |                |            | x                | Pure Mathematics   |  |  |  |  |            |
| 10         | Term scientific research work                                                                                                            | 6                       | 180                      | 180           |                         | 180                                     | 90                              |                   |            |      |          | 90               |       |            |                         |                             | 1              |            | x                |                   | 90    |              |                                  |      |          | 90               |          |            |                         |                             | 1              |            | x                | Pure Mathematics   |  |  |  |  |            |
|            | Total                                                                                                                                    | 60                      | 1800                     | 1800          |                         | 1800                                    | 900                             | 288               | 160        |      |          | 128              | 612   | 4          |                         |                             |                | 1          | 4                | 2                 | 900   | 288          | 128                              | 48   | 112      | 612              | 5        |            |                         |                             | 1              | 2          | 4                |                    |  |  |  |  |            |

## Trainings

| # | Title of the practical training | Number of weeks | Amount of hours | Evaluation scale |
|---|---------------------------------|-----------------|-----------------|------------------|
|   |                                 |                 |                 |                  |

## Certification

| Title | Semester |
|-------|----------|
|       |          |

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Acting dean of the School of mathematics and Computer Science

Yevhen Meniailov

(signature)