Weeks

6/7cr

Term

| "Approved" Vice-President Oleksandr HOL | OVKO | | | | |
|---|------------|----------------------------|-------------------------|--------------------|--------|
| "07" 06 2023 | MINIST | RY OF EDUCA | (proprietor) | CIENCE OF UKRA | AINE |
| | | V.N. Karazin | (university) | ional University | _ |
| 051705000 | | CATIONAL | | | |
| Training of Master of Science (level of higher education) | area of kr | (code and title of an | | s and statistics | |
| speciality | | 111 Mathemat | | | |
| according to educational-research program | | ematics (the E | - | age of instruction |) |
| specialization | | | | | |
| | | e and title of specializat | | | |
| | F | form of educa | | | |
| | | Y COVE AND | (full-time, by corresp | | DDOCE |
| | | I. TIME- | TABLE OF | | PROCES |
| September October November | December | January | February | March | April |

Level of higher education

the second (Master of Sience) level

Apprenticeship – 1 year 9 months on the basis of bachelor's degree

Educational qualification: Master in mathematics

| | T | Sept | embe | г | | Oct | ober | | | No | ovem | ber | | | Dec | embe | r | | January February March April | | | | | | | | oril | | | | May | / | | | J | une | | \perp | J | July | | \perp | 1 | | | | | | | | | | |
|------|---|------|------|---|------|-----|------|----|-----|----|------|-----|----|----|-----|------|-----|-----|------------------------------|-----|-----|---------|----|---|----|-----|------|----|------|---------|------|-----|-----|-----|-----|-----|----|---------|----|------|----|---------|-------------|-----|---------|---------|----|---------|---------|---------|---------|---------|----------|
| Year | _ | 101 | m | 4 | 5 | 9 | 7 | 00 | 6 | 5 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 2 | 75 | 27 | 27 | 17 | 07 | 67 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| 1 | Т | Т | Т | Т | Т | Т | Т | Т | Т | Т | Т | Т | Т | Т | T | Т | C | C | C | C | К | К | К | 1 | Г | Γ 7 | Γ 7 | Г | Γ | Т | T | T | T | T | Т | T | T | T | T | T | С | С | С | С | К | К | К | К | К | К | К | К | К |
| 2 | T | T | Т | T | Т | T | Т | Т | Т | Т | T | T | T | T | Т | T | С | С | C | С | · K | К | К | | Г | Γ | Γ 7 | ГТ | /Π T | /Π T | [/[] | Т/П | Т/П | Т/П | Т/Д | Т/Д | С | С | Д | Д | | | | | | | | | | | | | Ш |
| 3 | | | | | | | | | | | | | Т | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | \perp | | | \perp | \perp | \perp | \perp | \perp | Ш |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | \perp | | | | | | | | | | | | | | | \perp | \perp | _ | \perp | \perp | \perp | \perp | \perp | Ш |
| 5 | | | | | | | | | - 1 | | | | | | | | | | | | | \perp | | | | | | | | \perp | | | | | | | | | | | | | | | \perp | \perp | | 1 | \perp | \perp | \perp | \perp | \sqcup |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | \perp | | \perp | | \perp | |
| | | | | 1 | I. T | TO | AL | DA | YS | FR | ON | 1 T | HE | TI | ME | BUI | OGI | ET, | wee | eks | | | | | | | | | | | | | | | | | | | | | | | ΓRA | INI | ING | S | | | | | | | |

IL TOTAL DAVS FROM THE TIME RUDGET weeks

| | 11. 1 | UTAL DA | 15 FRUN | I THE III | IE BUDGEI, V | VEEKS | | |
|-------|---------------------|------------------------|-----------|---------------------------|--------------------|-----------|-------|------------------------------------|
| Year | Theoretical studies | Examinations and tests | Trainings | Certification examination | Thesis preparation | Vacations | Total | LEGEND: T - theoretical studies |
| 1 | 34 | 8 | | | | 12 | 52 | C - examinations |
| 2 | 30 | 6 | 6 | | 4 | 3 | 39 | Π - training |
| 3 | | | | | | | | K - vacations |
| 4 | | | | | | | | // - certification examination |
| 5 | | | | | | | | Д - thesis preparation and defe |
| 6 | | | | | | | | T/C- tests |
| Total | 64 | 14 | 6 | 0 | 4 | 15 | 91 | 1 |

fence

CERTIFICATION

Title of training

Thesis scientific research training (no study leave grante

| | Master's thesis | 4 |
|---------------------------|-----------------|------|
| Certification examination | Master's thesis | Term |

| | | | | III. | PLA | N OF | ED | UCAT | IONAL I | PROCES | S | | | | | | | | | | | | | | |
|------|--|-----------------------------|----------------------------|----------|-------------------------|------------------------------|----------------|-----------------|-----------------|-------------------|----------|-------------------------|-------------------|----------|------------------|----------|--------|-------|----------|----------|----------------|---------|---------|---------|----------|
| | | | Terms | distribu | ıtion | | | · · | | A | mount o | f academ | ic hours | | | Di | istrib | outio | n of | class | s hour term | | week | in ye | ears and |
| | * | | 0 | | | | | credits | | | Cl | ass hours | | | | 1 y | year | 2 y | ear | 3 y | year | 4 yea | ar 5 | year | 6 year |
| | | Four-level evaluation scale | sca | | | dividu tests | al | | | | | includ | ing: | | | | | | | | Tern | ns | | | |
| de | COLUDORS AND DESCRIPTION WORKS | tion | tion | | | 10313 | | CTS | | urs | | | | | tion | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 9 | 10 | 11 12 |
| Code | COURSES AND RESEARCH WORKS | alua | alua | Tests | ons | hic | · · | of E | Total | s ho | | ry | sses | S | para | | | | Amo | ount | of wee | eks p | er terr | n | |
| | | el ev | el ev | Te | nslat | l-grap | research works | Amount of ECTS- | T | Fotal class hours | Lectures | Laboratory examinations | Practical classes | Seminars | Self-preparation | | Π | | | П | | T | T | | |
| | | -lev | leve | | s, tra | ationa | arch v | Vmo | | otal | Lect | abo | ctica | Sem | Sel | 16 | 16 | 16 | 12 | | | | | | |
| | | Four | Two-level evaluation scale | | abstracts, translations | computational-graph works | resea | | | T | | L | Prac | | | 10 | 10 | 10 | 12 | | | | | | |
| | | | | | 1 " | · · | Ш | | | | | | | | | | | | | | | | | | |
| | | | | 1. C | | | | | OMPO | | S | | | | | | | | | | | | | | |
| | | _ | 1 | | 1.1 | Cyc | cle | | l train | | 22 | | | | 58 | | | | | | | | | | - |
| 1 | Global problems of modernity | - | 1 | | - | | H | 3 | | 32 | 32 | | | | | 2 | | | \vdash | \dashv | $\overline{}$ | Т | Т | | |
| 2 | Ukrainian as a foreign language | | 1,2 | 2 | 3 | | | 6 | 180 | 64 | | | 64 | | 174 | 2 | 2 | | | | | | | Ш | |
| 3 | Partial differential equations | 1 | | 1 | | | | 6 | 180 | 64 | 32 | | 32 | | 116 | 4 | | | | | | _ | | | |
| 4 | Algebra II | 1 | | 1 | | | | 6 | 180 | 64 | 32 | | 32 | | 116 | 4 | | | | _ | _ | \perp | + | \perp | |
| 5 | Differential geometry of manifolds | 1 | | 1 | | | | 6 | 180 | 48 | 32 | 2 | 16 | | 132 | 3 | | | | | | | | | |
| 6 | Functional analysis II | 1 | | 1 | | | | 6 | 180 | 48 | 32 | | 16 | | 132 | 3 | | | | | | | | | |
| | Total cycle 1.1 | 4 | 3 | 6 | 3 | ole e | 6.7 | 33 | 990 ional tr | 320 | 160 | | 96 | | 728 | 18 | 2 | 0 | | | | | | | |
| 1 | Complex analysis II | 2 | ľ | 1.2 | Cy | cie o |)1 p | 5 | 150 | 64 | 32 | | 32 | | 86 | | 4 | | | | T | | \top | П | |
| 2 | Optimization and control theory | 2 | | 1 | | | | 5 | 150 | 64 | 32 | | 32 | | 86 | | 4 | | | | | | | | |
| 3 | Master's seminar | | 2,3,4 | | | \vdash | \vdash | 19 | 570 | 120 | | | | 120 | 450 | | 2 | 4 | 2 | \dashv | \dashv | + | + | ++ | |
| 3 | | | | | _ | | Н | | | 120 | | | | 120 | | \vdash | - | -3 | - | \dashv | \dashv | + | + | | |
| 4 | Term scientific research work | | 2,3 | | | | 2 | 6 | 180 | | | | | | 180 | | | | | | | \perp | \perp | | |
| 5 | Thesis scientific research training (no study leave granted) | | 4 | | | | | 7 | 210 | | | | | | 210 | | | | | | | | \perp | | |
| 6 | Thesis preparation | 4 | | | | | | 5 | 150 | | | | | | 150 | | | | | | | | | | |
| | Total cycle 1.2 | 3 | 6 | 2 | | | 3 | 47 | 1410 | 248 | 64 | | 64 | 120 | 1162 | | 10 | 4 | | | | | | | |
| | Total compulsory components | 7 | | 8 | 3 | | 3 | 80 | 2400 | 568 | 224 | | 160 | 120 | 1890 | 18 | 12 | 4 | 2 | | | | | | |

2. ELECTIVE COMPONENTS

2.1 Cycle of general training

| | | | | | | 0 | 8 | | - | | | | | | | | | | | | | | |
|-------|---|---|---|-----|------|--------|----------|----------|--------|-----|-----|-----|------|----|----|----|----|---|--------|---|---|--------|--|
| | Total cycle 2.1 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 2.2 | 2 Cy | ycle o | f profes | sional t | aining | | | | | | | | | | | | | | |
| 1 | Course BK01.1 | 2 | T | 1 | T | T | 5 | 150 | 48 | 32 | 16 | | 102 | | 3 | | | T | | T | T | | |
| 2 | Course BK01.2 | 2 | | 1 | | | 5 | 150 | 48 | 32 | 16 | | 102 | | 3 | | | - | - | | | | |
| 3 | Course BK02.1 | 3 | , | 1 | | | 6 | 180 | 64 | 32 | 32 | | 116 | | | 4 | | | | | | | |
| 4 | Course BK02.2 | 3 | | 1 | | | 6 | 180 | 64 | 32 | 32 | | 116 | | | 4 | | | | | | | |
| 5 | Course BK02.3 | 3 | | 1 | | | 6 | 180 | 64 | 32 | 32 | | 116 | | | 4 | | | | | | | |
| 6 | Course BK03.1 | 4 | | 1 | | | 4 | 120 | 48 | 24 | 24 | | 72 | | | | 4 | | | | | \Box | |
| 7 | Course BK03.2 | 4 | | 1 | | | 4 | 120 | 48 | 24 | 24 | | 72 | | | | 4 | | \top | | | | |
| 8 | Course BK03.3 | 4 | | 1 | | | 4 | 120 | 48 | 24 | 24 | | 72 | | | | 4 | | | | | | |
| | Total cycle 2.2 | 8 | | 8 | | | 40 | 1200 | 432 | 232 | 200 | | 696 | | 6 | 12 | 12 | | | | | | |
| | Total elective components | 8 | | 8 | | | 40 | 1200 | 432 | 232 | 200 | | 696 | | 6 | 12 | 12 | | | | | | |
| Total | 1670年(1984年)日本日本市大学(1984年)(1984年)日本日本市大学(1984年) | | | | | | 120 | 3600 | 1000 | 456 | 360 | 120 | 2586 | 18 | 18 | 16 | 14 | | | | | | |
| Total | per week | | | | | | | | | | | | | 18 | 18 | 16 | 14 | | | | | | |
| Amo | unt of four-level scale marks 15 | | | | | | | | | | | | | 4 | 4 | 3 | 4 | | | | | | |
| Amo | unt of two-level scale marks 9 | | - | | | | | | | | | | | 2 | 3 | 2 | 2 | | | | | | |
| Amo | unt of tests 16 | | | | | | | | | | | | | 5 | 5 | 3 | 3 | | | | | | |
| Amo | unt of term research works 2 | | | | | | | | | | | | | | 1 | 1 | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |

Note:

Four-level evaluation scale: marks "excellent", "good", "satisfactory", "unsatisfactory"

Two-level evaluation scale: marks "passed", "not passed"

SUMMARY

| Title | Amount of ECTS- credits |
|------------------------------|----------------------------|
| Compulsory components | 85 |
| Elective components | 40 |
| Trainings | 7 |
| Thesis preparation | 9 |
| Research part | 42 |
| Total amount of ECTS-credits | 120 |

Approved by the Scientific Council of V.N. Karazin Kharkiv National University minutes № 9 dd. 29. 05. 2023

Dean of School of mathematics and Computer Sciences

Grygoriy ZHOLTKEVYCH

(signature, surname and initials)

Guarantor of the program

amara FASTOVS