

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
FERENC RAKOCZI II TRANSCARPATHIAN HUNGARIAN UNIVERSITY

APPROVED BY THE ACADEMIC COUNCIL
of the Ferenc Rakoczi II
Transcarpathian Hungarian University,
Minutes No. 2 of 30 March 2021
With amendments and supplements
approved by the Academic Council,
Minutes No. 5 of 27 May 2026
Brought into effect by Rector's Order
No. 62-Vn of 28 May 2026

EDUCATIONAL AND PROFESSIONAL PROGRAMME

“Mathematics”

LEVEL OF HIGHER EDUCATION	First
DEGREE OF HIGHER EDUCATION	Bachelor
FIELD OF KNOWLEDGE	A “Education”
SPECIALTYA4	“Secondary Education”
SUBJECT SPECIALTY	A4.04 “Secondary Education (Mathematics)”
QUALIFICATION	Bachelor of Secondary Education in the specialty “Secondary Education (Mathematics)”.

Beregove – 2026

PREAMBLE

The Mathematics educational programme for training applicants at the first (Bachelor's) level of higher education has been developed in accordance with the requirements of the Law of Ukraine “On Higher Education”. The programme corresponds to the first (Bachelor's) level of higher education and to qualification level six of the National Qualifications Framework. The educational programme is a regulatory document of Ferenc Rakoczi II Transcarpathian Hungarian University, defining the number of ECTS credits required to obtain the degree of higher education; the list of graduate competencies; the normative content of higher education training formulated in terms of learning outcomes; forms of attestation of higher education students; and requirements for the internal higher education quality assurance system.

Reviewers:

1. Lajos Siladi, Chair of the Cycle Commission, Methodologist Teacher of Mathematics at the Professional College of Ferenc Rakoczi II Transcarpathian Hungarian University
2. Kateryna Petechuk, Methodologist of the Educational and Methodological Office for Teaching Methods in Natural and Mathematical Disciplines, Technologies and Physical Culture, Transcarpathian Institute of Postgraduate Pedagogical Education;
3. Yurii Mlavets, Candidate of Physical and Mathematical Sciences, Associate Professor, Associate Professor of the Department of Cybernetics and Applied Mathematics, State Higher Educational Institution “Uzhhorod National University”.

PROFILE OF THE EDUCATIONAL PROGRAMME “Mathematics”

I. General information	
Full name of the higher education institution and structural unit	Ferenc Rakoczi II Transcarpathian Hungarian University, Department of Mathematics and Informatics
Type of educational programme	Educational and professional programme
Name of the educational programme	Mathematics
Level of higher education	first (Bachelor's) level
Degree of higher education	Bachelor.
Field of knowledge	A Education
Specialty	A4.04 Secondary Education (Mathematics)
International Standard Classification of Education ISCED-F 2013	Secondary Education (Mathematics) - 0114 (Teacher training with subject specialisation) The use of this ISCED-F 2013 code is due to the fact that the educational programme trains mathematics teachers: pedagogical training, methods of teaching mathematics, teaching practice, and a subject block of mathematical disciplines subordinated to the task of forming the ability to teach. Classification and positioning of the educational programme: The programme is assigned to the relevant specialty and field of knowledge according to the List of Fields of Knowledge and Specialties (Resolution of the Cabinet of Ministers of Ukraine No. 266 as amended by No. 1021 of 30 August 2024). To ensure international comparability, transparency and correct identification of educational content, the educational programme has been aligned with the detailed field of the International Standard Classification of Education ISCED-F 2013 in accordance with the Methodological Recommendations approved by Order of the Ministry of Education and Science of Ukraine No. 1734 of 31 December 2025. The correspondence of the educational programme has been determined according to the principle of dominant content, taking into account the aim of the programme, programme learning outcomes and the expected professional activity of graduates. Since, at the time of development of the educational programme, no approved higher education standard existed for specialty A4.04 Secondary Education (Mathematics), the programme was developed taking into account the draft standard for the relevant specialty (014.04 Secondary Education (Mathematics)) according to the correspondence table pursuant to Order of the Ministry of Education and Science of Ukraine No. 1625 of 19 November 2024, as well as the Professional Standard for the profession “Teacher of a General Secondary Education Institution”, approved by Order of the Ministry of Economy No. 2736 of 23 December 2020.
Forms of study	Institutional (full-time, part-time)
Qualification	Bachelor of Secondary Education in the specialty “Secondary Education (Mathematics)”.
Type of diploma and scope of the educational programme	Bachelor's diploma, 240 ECTS credits. Duration of study: 3 years and 10 months. Scope of the Bachelor's educational programme on the basis of complete general secondary education: 240 ECTS credits.
Cycle/level	National Qualifications Framework of Ukraine - Level 6; QF-EHEA - first cycle, EQF-LLL - Level 6.
Prerequisites	Certificate of complete general secondary education
Language(s) of instruction	Ukrainian, Hungarian
Accreditation status	Accreditation certificate: Series IP No. 07006909, issued by the Accreditation Commission of Ukraine (12 June 2018, Minutes No. 130, Order of the Ministry of Education and Science of Ukraine No. 662 of 20 June 2018), valid until 1 July 2028.
Permanent online address of the educational programme description	https://kme.org.ua/uk/osvitni-programi/
Description of the subject area	Object of study: the educational process in general secondary education institutions. Learning objectives: acquisition by higher education students of the ability to solve complex specialised tasks of pedagogical activity in the field of basic secondary education. Theoretical content of the subject area: concepts, categories, scientific concepts and principles that form the basis of the process of teaching and learning, education and development of secondary education students. Methods, methodologies and technologies: psychological and pedagogical methods of teaching and learning, education and development; methods of teaching and learning by subject specialties; classical and innovative educational technologies; digital technologies. Tools and equipment: educational and methodological tools, equipment for educational and general purposes for classrooms (Mathematics); multimedia equipment, modern universal and specialised information resources and software products; library resources, including electronic resources.
Academic rights of graduates	Opportunity to continue studies at the second level of higher education and to obtain additional qualifications in the adult education system
Employment of graduates	Graduates may work in the fields of general and specialised education as defined in the National Qualifications Framework and the National Classifier of Ukraine and, according to the Classifier of Occupations of Ukraine DK 003:2010, specialists who

	have completed the "Mathematics" educational programme may hold the following initial positions: 2320 Teacher of a general secondary education institution 2321 Teacher of a vocational education institution
Programme features	The programme provides training for higher education students in the implementation/dissemination of innovations in pedagogical science and practice and effective pedagogical practice, best pedagogical practices and valuable teaching experience. Several courses in the educational programme may be taught in English or other official languages of the European Union. To improve proficiency in these languages (and others chosen by students), additional free courses are offered to students. The uniqueness of the programme lies in its focus on training specialists who, after completing Bachelor's studies, mainly go on to work in secondary education institutions where mathematics is taught in two languages, Ukrainian and Hungarian.

II. Number of ECTS credits required to obtain the relevant degree of higher education

The educational and professional programme comprises 240 ECTS credits. The cycles of general, professional and practical training - the compulsory parts of the programme - amount to 180 ECTS credits (75%).

A total of 60 credits (25%) is allocated to elective courses chosen by students. Higher education students may choose courses from the university-wide list of educational components.

III. List of compulsory graduate competencies

GC1. Ability to exercise one's rights and duties as a member of society, to be aware of the values of civil (free democratic) society and the need for its sustainable development, the rule of law, and human and civil rights and freedoms in Ukraine.

GC2. Ability to act in a socially responsible and conscious manner.

GC3. Ability to communicate in the state language both orally and in writing.

GC4. Ability to communicate in a foreign language.

GC5. Knowledge and understanding of the subject area and understanding of professional activity.

GC6. Ability for interpersonal interaction.

GC7. Ability to work in a team.

GC8. Ability to communicate with representatives of other professional groups of various levels (with experts from other fields of knowledge / types of economic activity).

GC9. Ability to learn and master modern knowledge.

GC10. Ability to preserve and enhance the moral, cultural and scientific values and achievements of society on the basis of understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technologies; to use various types and forms of physical activity for active recreation and a healthy lifestyle.

GC11. Ability to make informed decisions.

GC12. Ability to motivate people and move towards a common goal.

GC13. Ability to generate new ideas.

GC14. Ability to identify, formulate and solve problems.

GC15. Ability to show initiative and entrepreneurship.

GC16. Ability to value and respect diversity and multiculturalism.

GC17. Ability to use information and communication technologies while observing ethical and legal standards in the context of European integration processes.

GC18. Ability to make decisions and act in accordance with the principle of the inadmissibility of corruption and any other manifestations of dishonesty.

GC19. Ability to act responsibly and safely in emergencies and crisis situations, to be aware of civic duty to defend Ukraine, its independence and territorial integrity, to observe the norms of international humanitarian law and the rules of personal and collective safety, to provide first aid, counter information influence and maintain psychological resilience.

Professional competencies

PC1. Ability to meet the requirements of the State Standard of Basic Secondary Education in professional activity, taking into account the subject specialty.

PC2. Ability to form and develop students' language and communicative abilities and skills.

PC3. Ability to model the content of instruction in accordance with students' compulsory learning outcomes.

PC4. Ability to form and develop students' key competencies and abilities common to all competencies.

PC5. Ability to provide integrated learning for students.

- PC6. Ability to select and use modern and effective methods and technologies for teaching, education and student development.
- PC7. Ability to develop students' critical thinking.
- PC8. Ability to assess and monitor students' learning outcomes on the basis of the competency-based approach.
- PC9. Ability to develop value-based attitudes in students.
- PC10. Ability to navigate the information space, search for and critically evaluate information, and use it in professional activity.
- PC11. Ability to use digital technologies in the educational process and to create and use digital educational resources.
- PC12. Ability to use educational and methodological tools, classroom equipment for educational and general purposes (by subject specialties), and multimedia equipment.
- PC13. Ability to take account of students' age-related and individual characteristics in the educational process in order to build motivation, organise cognitive activity, and develop positive self-esteem and self-identity.
- PC14. Ability to form a student community in which everyone feels that they belong.
- PC15. Ability to interact constructively and safely with participants in the educational process, while being aware of one's own feelings, emotions and needs and managing one's emotional states.
- PC16. Ability to engage in equal, person-centred interaction with students in the educational process and to involve parents in the educational process on the basis of partnership.
- PC17. Ability to ensure favourable conditions in the educational environment for each student, depending on their individual needs, capabilities, abilities and interests.
- PC18. Ability to provide pedagogical support to persons with special educational needs in an inclusive educational environment.
- PC19. Ability to organise a safe educational environment, use health-preserving technologies during the educational process, carry out preventive and educational work on life safety, sanitation and hygiene, and develop in students a culture of healthy and safe living.
- PC20. Ability to plan and organise the educational process using various types and forms of learning and cognitive activity, and to forecast the results of the educational process.
- PC21. Ability to assess the level of students' academic achievement, analyse their learning outcomes, and teach students self-assessment and peer assessment.
- PC22. Ability to apply scientific methods of inquiry in the educational process.
- PC23. Ability to use innovations in professional activity.
- PC24. Ability to monitor one's own pedagogical activity and engage in lifelong learning.
- PC25. Ability to formulate problems mathematically and in symbolic form in order to simplify their analysis and solution.
- PC26. Ability to present mathematical reasoning and conclusions in a form appropriate for the target audience, and to analyse and discuss the mathematical reasoning of others involved in solving the same problem.
- PC27. Ability to reason and identify chains of reasoning in mathematical proofs on the basis of the axiomatic approach, arrange them in logical sequence, construct formal proofs from axioms and postulates, and distinguish plausible arguments from formally rigorous ones.
- PC28. Ability for quantitative thinking, development and study of mathematical models of phenomena, processes and systems, use of computational tools for numerical and symbolic calculations, and application of specialised programming languages and application software packages.
- PC29. Ability to analyse mathematical structures, including assessing the validity and effectiveness of the mathematical approaches used.
- PC30. Ability to solve problems from the basic secondary school mathematics curriculum at various levels of complexity and explain their solutions to students.
- PC31. Ability to act according to given basic mathematical algorithms, select and apply them, and acquire advanced cognitive and practical abilities and skills necessary for constructing algorithms and describing methods for solving mathematical problems in the form of algorithmic instructions.

IV. Normative content of higher education training formulated in terms of learning outcomes

- PLO1. Know and comply with the requirements of the State Standard of Basic Secondary Education in professional activity according to the subject specialty.
- PLO2. Communicate fluently in the state language on professional topics, using modern terminology and the conceptual system of the specialty; present one's own views in the state language in a reasoned manner.
- PLO3. Communicate in a foreign language in professional activity.
- PLO4. Exercise one's civil rights and duties, and be aware of and uphold the values of a democratic society in professional activity.
- PLO5. Use language means to explain learning material to students, formulate problem questions and answer questions; use language and language means as a tool to motivate students to explore the world around them.
- PLO6. Know the legislative requirements for the content of general secondary education at the relevant level and for forms of organising the educational process.

PLO7. Demonstrate academic knowledge of the educational field / school subject and master methods and technologies for modelling the content of instruction in accordance with students' compulsory learning outcomes.

PLO8. Select didactic materials for students' study of individual topics / sections of the curriculum in accordance with compulsory learning outcomes.

PLO9. Use learning material to develop students' key competencies and abilities common to all competencies, and teach students to apply them in practice.

PLO10. Use interdisciplinary links and integrate the content of different educational fields.

PLO11. Select appropriate modern methods and technologies for teaching, education and student development through the educational field / school subject in accordance with the defined topic, aim and objectives of the lesson.

PLO12. Apply methods and technologies for developing students' critical thinking.

PLO13. Master methods and tools for assessing and monitoring students' learning outcomes.

PLO14. Master methods for forming and developing value-based attitudes in students.

PLO15. Use information and communication technologies in the educational process and for professional development, and create and use digital educational resources.

PLO16. Navigate the information space, search for and critically evaluate information, verify its reliability, and use it in professional activity.

PLO17. Use educational and methodological tools, equipment for educational and general purposes in classrooms (by subject specialties), and multimedia equipment in the educational process.

PLO18. Observe academic integrity and copyright protection requirements when using and disseminating electronic (digital) educational resources.

PLO19. Understand the influence of students' age-related characteristics on different areas of their development and mental processes, and use appropriate forms and methods of work with students; recognise students' individual characteristics and take them into account when planning and implementing the educational process.

PLO20. Take account of students' age-related and individual characteristics in the educational process to build motivation, organise cognitive activity, and develop positive self-esteem and self-identity.

PLO21. Support interaction among students to promote their social development and form skills of mutual assistance and cooperation.

PLO22. Be aware of one's own feelings, emotions and needs, manage one's emotional states, and master ways to prevent professional burnout.

PLO23. Interact constructively and safely with participants in the educational process, respecting diversity of opinions and views and accepting and valuing otherness.

PLO24. Interact with participants in the educational process on the basis of partnership.

PLO25. Provide pedagogical support for students with special educational needs in an inclusive educational environment.

PLO26. Select and apply health-preserving tools and resources in the educational environment, master methods of preventive and educational work and life safety, sanitation and hygiene, and form in students a culture of healthy and safe living.

PLO27. Know the conditions for providing first aid in accordance with legislation and recognise external signs of deterioration in a person's condition.

PLO28. Ensure favourable conditions in the educational environment for each student, taking into account their individual needs, capabilities, abilities and interests.

PLO29. Plan the educational process on the basis of the educational programme of the institution and subject curricula (integrated courses), taking into account the requirements of the State Standard of Basic Secondary Education.

PLO30. Model lessons on the basis of competency-based, activity-based and person-centred approaches.

PLO31. Organise lessons of various types and apply different types and forms of students' learning and cognitive activity.

PLO32. Conduct various types of assessment of students' learning outcomes (formative, ongoing, summative, etc.) using appropriate assessment methods and criteria.

PLO33. Analyse students' learning outcomes for further consideration in the educational process; use methods and techniques to develop students' ability to self-assess and peer-assess learning outcomes.

PLO34. Determine the appropriateness of applying various methods of scientific inquiry in the educational process according to the content of instruction.

PLO35. Select and apply innovative forms, methods, techniques and teaching tools in pedagogical activity.

PLO36. Apply different approaches to problem solving, generate new ideas, and demonstrate openness to the ideas and decisions of participants in the educational process.

PLO37. Identify one's own educational needs and choose appropriate types, forms and programmes of professional development.

PLO38. Solve problems using rational mathematical methods, verify the conditions for the validity of mathematical statements, and find and analyse correspondences between the problem set and known models.

PLO39. Construct and investigate mathematical models of natural and/or social processes.

PLO40. Prove mathematical statements on the basis of the principles of modus ponens and modus tollens and derive consequences from mathematical statements.

PLO41. Analyse one's own pedagogical activity and its results and carry out objective self-assessment and self-correction of professional qualities.

PLO42. Explain the main stages in the historical development of mathematical knowledge and paradigms and describe current trends in mathematics.

PLO43. Demonstrate knowledge of fundamental mathematics at the level of theoretical foundations and apply methods of algebra, mathematical analysis, analytic and differential geometry, topology, functional analysis, the theory of differential equations, probability theory and mathematical statistics, and the theory of functions of a complex variable.

PLO44. Identify, classify and analyse problems from the school mathematics curriculum at different levels of complexity and demonstrate the ability to solve them.

PLO45. Form students' understanding of mathematics and informatics on the basis of modern scientific achievements.

PLO46. Demonstrate knowledge of the main branches of mathematics and informatics.

PLO47. Know the fundamentals of preventing corruption and ensuring public and academic integrity at a level necessary to form intolerance of corruption and manifestations of dishonest behaviour among students, and be able to apply them in professional activity.

PLO48. Demonstrate basic knowledge and practical skills necessary for safe behaviour and effective action in crisis situations: apply first aid algorithms, navigate terrain using modern navigation tools, recognise mines and other security threats, comply with international humanitarian law, use communication tools, maintain psychological resilience and critically assess information influences.

V. Resource support for programme implementation	
Staffing support	The core teaching staff of the educational programme consists of academic staff of the departments of Ferenc Rakoczi II Transcarpathian Hungarian University. Lecturers teaching within the programme are active and recognised scholars who publish in domestic and foreign scholarly literature and have the relevant professional competence and experience in teaching, research and pedagogical activity. All academic staff continuously improve their qualifications. The practice-oriented nature of the educational programme provides for broad participation of practitioners corresponding to the programme area, as well as the involvement of competent high-level experts in teaching, including representatives of professional unions and associations, which strengthens the synergistic link between theoretical and practical training. The head of the project group and the teaching staff ensuring programme implementation meet the requirements established by the Licensing Conditions for conducting educational activity by educational institutions.
Material and technical support	The available premises comply with regulated area indicators. The needs of the University's educational programmes are 100% covered by classrooms, and classrooms are 100% equipped with multimedia facilities. For practical classes, information search and processing of results, specialised computer laboratories with the necessary software and unrestricted open Internet access are available. There is infrastructure for recreation and health improvement (canteen, sports ground, gym, fitness room, medical office, etc.).
Information and educational-methodological support	The information and educational-methodological support of the "Mathematics" educational programme meets licensing requirements, has up-to-date content and is based on modern information and communication technologies. Students use methodological materials prepared by teachers: textbooks, lecture presentations, lecture notes, methodological guidelines for practical and laboratory classes, individual assignments, etc. Methodological materials may be provided in both printed and electronic form.

VI. Academic mobility	
National credit mobility	On general grounds within Ukraine, on the basis of bilateral agreements between Ferenc Rakoczi II Transcarpathian Hungarian University and partner educational institutions.
International credit mobility	The right of higher education students to academic mobility is exercised on the basis of international programmes and projects, agreements on cooperation in education and science between the University and partner institutions, or on the applicant's own initiative supported by the University administration, on the basis of individual invitations. The procedure for exercising the right to academic mobility is governed by the Regulation on the Procedure for Exercising the Right to Academic Mobility. https://kme.org.ua/uk/mik/#dod-2-ii-6-pol-realiz-prava

	Forms of academic Requirements of professional standards include mobility for students at the University include study under academic mobility programmes, language or research internships, and practical placement. Ferenc Rakoczi II Transcarpathian Hungarian University participates in a project under the ERASMUS+ programme and in the “Makovecz” international student mobility programme, which has operated since 2016 within the Carpathian Basin countries: Hungary, Ukraine, Romania, Slovakia and Serbia.
Education of foreign higher education students	Training of foreign students is not provided.

VII. Forms of attestation of higher education students

Forms of attestation of higher education students	Attestation is carried out in the form of an attestation examination and public defence of the qualification paper.
Requirements for the attestation examination(s)	The attestation examination must assess the level of achievement of the learning outcomes defined by the educational programme.
Requirements for the qualification paper	In accordance with the curriculum, students of the University prepare and defend qualification papers. The qualification paper is a final result that makes it possible to identify the student's level of mastery of theoretical knowledge and practical training, as well as the ability to work independently in the chosen research area; such papers must be completed scholarly works characterised by elements of scientific novelty and topical relevance, have practical and theoretical significance, and contain a set of results and propositions submitted for public defence. The qualification paper of an education applicant is subject to mandatory checking for academic plagiarism in accordance with the University Regulation on Academic Integrity. After defence, full-text electronic versions of qualification papers are transferred by the relevant departments to the University Repository of Academic Texts, which operates as a local repository of the National Repository of Academic Texts.
Requirements for public defence (presentation)	A mandatory condition for admission to the official defence of the qualification paper before the Examination Commission is successful completion of the academic plagiarism check. Qualification papers are assessed during defence by the Examination Commission. During the public defence, the Bachelor's degree candidate must demonstrate the ability to present the content of the research clearly and confidently, answer questions in a reasoned manner and conduct a scholarly discussion. The student's report must be accompanied by presentation materials and an explanatory note intended for general review. The decision of the Examination Commission on awarding the Bachelor's degree, assigning the professional qualification and issuing the Bachelor's diploma based on the results of final attestation is announced on the day of final attestation after the minutes of the Examination Commission meetings have been duly prepared.

VIII. Requirements of professional standards, where applicable

Full title of the Professional Standard, its details and/or link to the document	Professional Standard “Teacher of a General Secondary Education Institution” https://mon.gov.ua/npa/pro-zatverdzhennia-profesiinoho-standartu-vchytel-zakladu-zahalnoi-serednoi-osvity
Features of the Higher Education Standard related to the existence of a relevant Professional Standard	The list of graduate competencies is aligned with the general and professional teacher competencies set out in the professional standard.

IX. Requirements for the internal higher education quality assurance system

The higher education institution operates a system for assuring the quality of educational activity and higher education (the internal quality assurance system), which provides for the following procedures and measures:

- defining the principles and procedures for higher education quality assurance;
- monitoring and periodic review of educational programmes;
- annual assessment of higher education students, academic staff and teaching staff of the higher education institution;

professional development of teaching, research and academic staff in the form of internships or professional development courses with an appropriate confirming document at least once every five years, or through the defence of a dissertation;

provision of the necessary resources for the organisation of the educational process, including students' independent work, for each educational programme;

creation of information systems for effective management of the educational process;

ensuring public access to information on educational programmes, levels of higher education and qualifications;

creation of an effective system for preventing academic plagiarism in research papers of HEI staff and higher education students, etc.

The HEI system for assuring the quality of educational activity and higher education (the internal quality assurance system) is evaluated, upon submission by the HEI, by the National Agency for Higher Education Quality Assurance.

X. Requirements for applicants' previous level of education

A person has the right to pursue a Bachelor's degree on the basis of complete general secondary education. Admission requirements are determined by the Admission Rules of the higher education institution (<https://kme.org.ua/uk/vstupna-kampanija/vstup-2026/>).

XI. List of components of the educational and professional programme and their logical sequence

Code	Components of the educational programme (courses, course projects/papers, practical training, qualification paper)	Number of credits	Form of final assessment
1	2	3	4
1. Compulsory components of the EP			
Cycle of general training (ZP)			
ZP 1	History and Culture of Ukraine	3	pass/fail assessment
ZP 2	History and Culture of the Hungarian People	3	pass/fail assessment
ZP 3	Philosophy	3	pass/fail assessment
ZP 4	Foreign Language for Professional Purposes	3	examination
ZP 5	Ukrainian language for professional purposes	3	pass/fail assessment
ZP 6	Safety of Human Life and the Educational Environment	3	pass/fail assessment
ZP 7	Fundamentals of National Resistance*	5	pass/fail assessment
Cycle of professional training (PPP)			
PPP 1	Informatics	6	pass/fail assessment
PPP 2	Analytic Geometry	8	examination
PPP 3	Linear Algebra	8	examination
PPP 4	Mathematical Analysis	18	examination
PPP 5	Psychology	4	examination
PPP 6	Elementary Mathematics	8	examination, pass/fail assessment
PPP 7	Pedagogy	6	examination, pass/fail assessment
PPP 8	Mathematical logic and algorithm theory	3	pass/fail assessment
PPP 9	Mathematics Teaching Methodology in Secondary Education	14	pass/fail assessment, examination
PPP 10	Algebra and Number Theory	4	examination
PPP 11	Discrete Mathematics	3	examination
PPP 12	Differential Geometry and Topology	5	examination
PPP 13	Complex Analysis	4	examination
PPP 14	Theory of probability and mathematical statistics	9	examination
PPP 15	Algorithms and Programming	3	examination
PPP 16	Differential Equations	5	examination
PPP 17	General Physics and Astronomy	3	examination
PPP 18	Calculation methods	3	examination
PPP 19	Object-Oriented Programming Technology	3	examination
PPP 20	Additional sections of mathematical analysis	3	pass/fail assessment
PPP 21	The basics of scientific research and academic integrity	3	pass/fail assessment
PPP 22	Course paper on methods of teaching mathematics	2	pass/fail assessment
Total scope of compulsory components		148	

Pedagogical practical training and attestation (PPA)			
PPA 1	Pedagogical Practice (Practice in Preparing Scholarly Texts and Visual Aids in Mathematics)	6	pass/fail assessment

PPA 2	Educational Pedagogical Practice		
PPA 2.1	Educational Pedagogical Practice	3	pass/fail assessment
PPA 2.2	Educational Pedagogical Practice (Camp Practice)	3	pass/fail assessment
PPA 3	Professional Pedagogical Practice	15	pass/fail assessment
PPA 4	Preparation of the Bachelor's Thesis	3	pass/fail assessment
A	Attestation	1	
A1.2	Final State Attestation	1	Examination
A1.1	Defence of the Qualification Paper	0	
Total scope of practical training		32	
2. Elective components of the EP**			
EC1	Course freely chosen by the student	4	pass/fail assessment
EC2	Course freely chosen by the student	4	pass/fail assessment
EC3	Course freely chosen by the student	4	pass/fail assessment
EC4	Course freely chosen by the student	4	pass/fail assessment
EC5	Course freely chosen by the student	4	pass/fail assessment
EC6	Course freely chosen by the student	4	pass/fail assessment
EC7	Course freely chosen by the student	4	pass/fail assessment
EC8	Course freely chosen by the student	4	pass/fail assessment
EC9	Course freely chosen by the student	4	pass/fail assessment
EC10	Course freely chosen by the student	4	pass/fail assessment
EC11	Course freely chosen by the student	4	pass/fail assessment
EC12	Course freely chosen by the student	4	pass/fail assessment
EC13	Course freely chosen by the student	4	pass/fail assessment
EC14	Course freely chosen by the student	4	pass/fail assessment
EC15	Course freely chosen by the student	4	pass/fail assessment
Total scope of elective components		60	
Total scope of the educational programme		240	

*According to Law of Ukraine No. 4826-IX of 25 March 2026 “On Amendments to Certain Laws of Ukraine Concerning Certain Issues of Preparing Citizens of Ukraine for National Resistance” (<https://zakon.rada.gov.ua/laws/show/4826-20#n84>), the following students are exempt from studying the course “Fundamentals of National Resistance” in educational institutions of all forms of ownership:

have completed military service;

have successfully studied this course during previous professional pre-higher or higher education;

hold a document confirming completion of basic combined-arms training and acquisition of a military occupational specialty;

study in a form other than full-time or dual education;

reside in temporarily occupied territory of Ukraine.

The above-mentioned students may personally choose additional educational components of the programme in the number of credits allocated to this course.

**Higher education students have the right to freely choose courses totalling 60 credits from those offered by the departments of the University: <https://kmf.uz.ua/uk/studentam/disciplini-vilnogo-viboru/>

XII. Requirements for the structure of course programmes, practical training and individual assignments

Bachelor's learning outcomes are determined by types of educational activity as a specification of programme (integrative) learning outcomes in course programmes, practical training and individual assignments, and are used as criteria for selecting the necessary content modules and corresponding learning elements.

The connection between the educational programme and training programmes by types of educational activity ensures the quality of higher education at the design stage.

The course programme also determines the total time for mastery, the form of final assessment, the list of prerequisite courses, requirements for information and methodological support, requirements for diagnostic tools and assessment criteria, and requirements for the structure of the course syllabus.

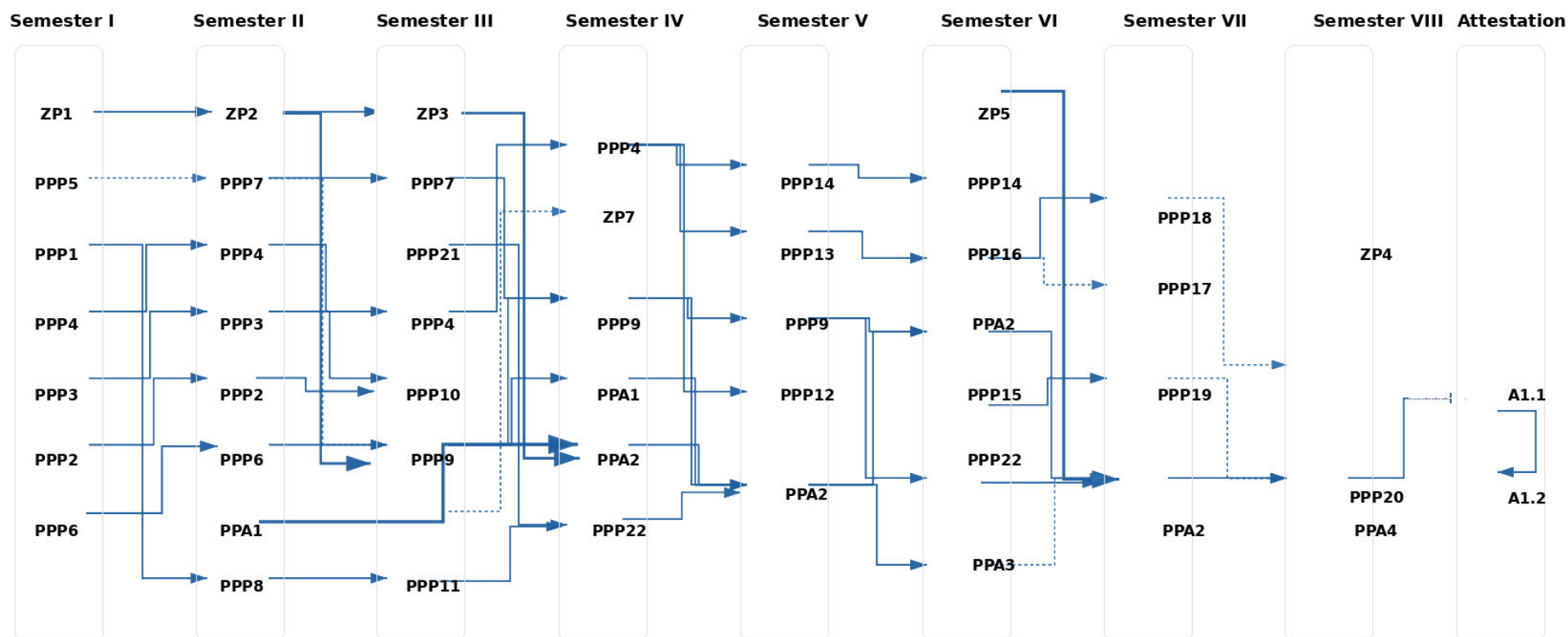
XIII. Form of attestation of higher education students

Final attestation is carried out by assessing the degree to which competencies have been formed. The form of attestation is passing a qualification examination and defending a qualification paper and defence of a qualification paper with the award of the educational qualification Bachelor of Secondary Education in the specialty “Secondary Education (Mathematics)”. Attestation is conducted openly and publicly.

XIV. Duration of study by mode

Full-time mode - 3 years and 10 months; part-time mode - 3 years and 10 months.

XV. Structural and logical scheme



XVI. Final provisions

The educational and professional programme must be published on the University website before the start of admission to the HEI in accordance with the Admission Rules.

The head of the graduating department and the programme guarantor for the specialty are responsible for implementing the educational and professional programme and ensuring the quality of higher education.

XVII. List of regulatory documents on which the educational and professional programme is based

1. Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) [electronic resource]. Access mode: https://ihed.org.ua/wp-content/uploads/2018/10/04_2016_ESG_2015.pdf
2. Law of Ukraine “On Higher Education” [electronic resource]. Access mode: <http://zakon4.rada.gov.ua/laws/show/1556-18>
3. Classifier of Occupations (CO) as of 01.10.2015 [electronic resource]. Access mode: <http://buhgalter911.com/res/spravochniki/klassifikprofessiy.aspx>
4. Classification of Types of Economic Activity: National Classifier of Ukraine KVED 009:2010 [electronic resource]. Access mode: <http://dtk.com.ua/show/0sid0177.html>
5. Methodological Recommendations for Developing Higher Education Standards: approved by the Higher Education Sector of the Scientific and Methodological Council of the Ministry of Education and Science of Ukraine, Minutes No. 3 of 29.03.2016 [electronic resource]. Access mode: <http://mon.gov.ua/>
6. National Qualifications Framework: Annex to Resolution of the Cabinet of Ministers of Ukraine No. 1341 of 23 November 2011 [electronic resource]. Access mode: <http://zakon5.rada.gov.ua/laws/show/1341-2011-%D0%BF>
7. On approval of an amendment to the National Classifier of Ukraine DK 003-2010: Order of the Ministry of Economic Development of Ukraine No. 1084 of 02.09.2015 [electronic resource]. Access mode: <http://buhgalter911.com/ShowArticle.aspx?a=272508>
8. On the specifics of introducing the list of fields of knowledge and specialties under which higher education students are trained, approved by Resolution of the Cabinet of Ministers of Ukraine No. 266 of 29 April 2015: Order of the Ministry of Education and Science of Ukraine No. 1151 of 06.11.2015 [electronic resource]. Access mode: <http://zakon2.rada.gov.ua/laws/show/z1460-15>
9. Development of the Higher Education Quality Assurance System in Ukraine: information and analytical review - http://ihed.org.ua/images/biblioteka/Rozvitok_sisitemi_zabesp_yakosti_VO_UA_2015.pdf.
10. On approval of the professional standard for the professions “Primary School Teacher of an Educational Institution”, “Teacher of a General Secondary Education Institution”, “Teacher of Primary Education (with junior specialist diploma)”. Access mode: www.me.gov.ua
11. On approval of the Concept for the Development of Pedagogical Education <https://mon.gov.ua/ua/npa/pro-zatverdzhennya-koncepciyi-rozvitku-pedagogichnoyi-osviti>
12. National Classifier of Ukraine: “Classifier of Occupations” DK 003:2010. URL: <https://zakon.rada.gov.ua/rada/show/va327609-10#n5><https://zakon.rada.gov.ua/rada/show/va327609-10#n5>
13. Amendments to the National Classifier “Classifier of Occupations” DK 003:2010: Order of the Ministry of Economy No. 1574 of 18.08.2020. URL: <https://zakon.rada.gov.ua/rada/show/v1574915-20#Text><https://zakon.rada.gov.ua/rada/show/v1574915-20#Text>
14. List of fields of knowledge and specialties under which higher education students are trained: Resolution of the Cabinet of Ministers of Ukraine No. 266 of 29 April 2015 (latest amendments of 01.02.2017). URL: <https://zakon.rada.gov.ua/laws/show/266-2015-%D0%BF#Text>
15. Professional Standard “Teacher of a General Secondary Education Institution” <https://mon.gov.ua/npa/pro-zatverdzhennia-profesiinoho-standartu-vchytel-zakladu-zahalnoi->

[serednoi-osvityhttps://mon.gov.ua/npa/pro-zatverdzhennia-profesiinoho-standartu-vchytel-zakladu-zahalnoi-serednoi-osvity](https://mon.gov.ua/npa/pro-zatverdzhennia-profesiinoho-standartu-vchytel-zakladu-zahalnoi-serednoi-osvity)

16. Draft higher education standard for specialty 014 “Secondary Education” at the first (Bachelor's) level of higher education. Access mode: <https://mon.gov.ua/static-objects/mon/sites/1/gromadske-obgovorennia/2024/04/17/HO-projekt.stand.VO-014-serednya.osvita-bakalavr.17.04.2024.1.1.docx>
17. Concept for the Development of Pedagogical Education <https://mon.gov.ua/ua/npa/pro-zatverdzhennia-koncepciyi-rozvitku-pedagogichnoyi-osviti>
18. Resolution of the Cabinet of Ministers of Ukraine No. 734 of 21 June 2024 “On Approval of the Procedure for Conducting Basic Combined-Arms Training for Citizens of Ukraine Pursuing Higher Education and Police Officers”. Access mode: <https://zakon.rada.gov.ua/laws/show/734-2024-%D0%BF#Text>
19. Law of the Verkhovna Rada of Ukraine “On Ensuring the Functioning of the Ukrainian Language as the State Language”, document 2704-VIII, current, current version of 31.12.2023, basis - 2801-IX. Access mode: <https://zakon.rada.gov.ua/laws/show/2704-19#Texthttps://zakon.rada.gov.ua/laws/show/2704-19#Text>
20. Order of the Ministry of Education and Science of Ukraine No. 898 of 25 July 2023 “Methodological Recommendations for Ensuring Quality Learning, Teaching and Use of English in Higher Education Institutions of Ukraine”. Access mode: <https://zakon.rada.gov.ua/rada/show/v0898729-23#Text>
21. Resolution of the Cabinet of Ministers of Ukraine No. 1021 of 30 August 2024 “On Approval of the List of Fields of Knowledge and Specialties under Which Applicants for Higher and Professional Pre-Higher Education Are Trained”. Access mode: <https://zakon.rada.gov.ua/laws/show/266-2015-%D0%BF#Text>

APPENDICES

Table 1. MATRIX OF CORRESPONDENCE BETWEEN PROGRAMME COMPETENCIES AND EDUCATIONAL PROGRAMME COMPONENTS

		GC1	GC2	GC3	GC4	GC5	GC6	GC7	GC8	GC9	GC10	GC11	GC12	GC13	GC14	GC15	GC16	GC17	GC18	GC19	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9	PC10	PC11	PC12	PC13	PC14	PC15	PC16	PC17	PC18	PC19	PC20	PC21	PC22	PC23	PC24	PC25	PC26	PC27	PC28	PC29	PC30	PC31	
ZP1		+	+				+		+		+																		+																							
ZP2		+	+				+		+		+						+												+																							
ZP3		+	+									+	+	+	+															+																						
ZP4		+	+		+				+							+										+																										
ZP5		+	+	+					+							+																																				
ZP6			+					+	+							+	+			+	+												+					+														
ZP7			+					+	+				+			+	+	+	+	+																			+													
PPP1				+						+								+				+	+								+	+																				
PPP2					+																	+	+																			+			+	+						
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PPP4					+																							+																+		+	+					
PPP5						+																+	+											+	+		+	+														
PPP6					+								+									+	+	+	+	+																+										
PPP7													+									+	+	+	+	+	+			+				+						+	+								+			
PPP8																						+	+	+	+	+	+	+																	+					+		
PPP9																						+	+	+	+	+	+	+														+	+		+					+		
PPP10					+																	+	+	+	+	+	+	+														+	+		+					+		
PPP11					+																	+	+	+	+	+	+	+														+	+		+					+		
PPP12					+																	+	+	+	+	+	+	+														+	+		+					+		
PPP13				+	+																	+	+	+	+	+	+	+														+	+		+					+		
PPP14				+	+						+											+	+	+	+	+	+	+														+	+		+					+		
PPP15																		+				+	+	+	+	+	+	+				+										+	+		+					+		
PPP16					+																	+	+	+	+	+	+	+														+	+		+					+		
PPP17											+											+	+	+	+	+	+	+														+	+		+					+		
PPP18																			+			+	+	+	+	+	+	+														+	+		+					+		
PPP19																			+			+	+	+	+	+	+	+				+										+	+		+					+		
PPP20					+					+									+			+	+	+	+	+	+	+														+	+		+					+		
PPP21										+		+		+	+		+					+	+	+	+	+	+	+													+	+		+					+			
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PPA1																						+	+				+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
PPA2							+	+														+	+	+	+								+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
PPA3							+	+					+									+	+	+	+									+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PPA4										+		+	+	+	+	+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
A1.2		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
A1.1					+							+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Table 2. MATRIX OF ALIGNMENT BETWEEN PROGRAMME LEARNING OUTCOMES (PLOs) AND THE RELEVANT EDUCATIONAL PROGRAMME COMPONENTS

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15	PLO16	PLO17	PLO18	PLO19	PLO20	PLO21	PLO22	PLO23	PLO24	PLO25	PLO26	PLO27	PLO28	PLO29	PLO30	PLO31	PLO32	PLO33	PLO34	PLO35	PLO36	PLO37	PLO38	PLO39	PLO40	PLO41	PLO42	PLO43	PLO44	PLO45	PLO46	PLO47	PLO48																		
ZP1	+	+		+		+			+				+	+				+	+	+	+	+	+		+	+	+	+				+	+	+		+	+																													
ZP2	+	+		+		+			+	+			+	+				+	+	+	+	+	+	+	+	+	+	+	+				+	+	+		+	+																												
ZP3	+	+		+	+	+	+		+			+	+	+				+			+	+			+	+	+	+				+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+																	
ZP4		+	+	+		+				+			+					+							+		+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+																		
ZP5	+	+		+	+	+							+					+	+	+	+		+		+		+				+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+																	
ZP6		+			+	+				+				+			+						+	+		+	+	+				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+																	
ZP7		+			+	+				+				+							+		+	+			+	+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+																	
PPP1		+	+				+	+			+					+	+	+	+																+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+																
PPP2	+	+				+		+	+		+				+	+	+	+												+	+	+					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+															
PPP3	+		+			+		+	+		+							+	+											+	+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+														
PPP4	+				+	+	+	+	+		+	+			+			+													+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+													
PPP5	+	+	+		+	+	+		+	+		+			+					+	+	+		+	+	+			+		+	+		+				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+													
PPP6	+				+	+		+	+	+	+	+	+					+													+	+				+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+												
PPP7	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+	+	+		+	+	+					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+											
PPP8					+							+																											+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+										
PPP9	+	+	+		+	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+									+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+										
PPP10	+				+	+		+	+		+	+						+													+	+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+											
PPP11	+				+	+		+	+		+	+						+													+	+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+											
PPP12	+				+	+		+	+		+	+						+													+	+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+											
PPP13	+		+		+	+		+	+		+	+	+	+	+				+	+										+	+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
PPP14	+				+	+		+	+		+	+	+					+													+	+		+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
PPP15					+		+				+	+				+	+	+	+																		+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							
PPP16	+				+	+		+	+		+	+						+													+	+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							
PPP17	+				+		+		+	+		+		+								+					+	+				+		+	+	+				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
PPP18					+		+				+	+			+	+																								+	+				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+						
PPP19					+		+				+	+			+	+	+	+	+																		+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					
PPP20	+	+			+	+	+	+	+		+				+	+	+	+													+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
PPP21		+	+			+	+		+	+	+	+	+	+	+	+	+	+	+				+	+										+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
PPP22	+				+	+	+			+	+	+	+							+															+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
PPA1	+				+	+	+			+	+	+	+		+	+	+	+	+	+	+	+										+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
PPA2	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					
PPA3	+				+		+				+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
PPA4		+	+			+	+				+	+	+	+	+	+	+	+	+	+	+	+										+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
A1.1	+				+	+	+	+		+								+	+											+	+	+		+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
A1.2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+