Study plan

Name of study plan: Učitelství matematiky pro střední školy

Faculty/Institute/Others:
Department:
Branch of study guaranteed by the department: Welcome page
Garantor of the study branch:
Program of study: Master Continuation Programme in Mathematics Education
Type of study: Follow-up master combined
Required credits: 0
Elective courses credits: 120
Sum of credits in the plan: 120
Note on the plan:

Name of the block: Compulsory courses in the program
Minimal number of credits of the block: 0
The role of the block: PP

Code of the group: NMSPUCIMA1
Name of the group: NMS P_UCIMA 1. ročník
Requirement credits in the group:
Requirement courses in the group: In this group you have to complete at least 13 courses
Credits in the group: 0
Note on the group:

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors, **authors** and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
15AMV	**Activating Teaching Methods** *David Šarboch, Petr Distler, Věra Krajčová **Petr Distler** Petr Distler (Gar.)*	KZ	4	12B		PP
01AVM	**Applications of Higher Mathematics in High School Education** *Maksym Dreval, Lubomíra Dvořáková **Lubomíra Dvořáková** Maksym Dreval (Gar.)*	KZ	3	8B		PP
02UINT	**Didactics of Integrated Science Education** *Maksym Dreval, Boris Tomášik **Boris Tomášik** Boris Tomášik (Gar.)*	KZ	6	18B	Z	PP
01DIDM1	**Didactics of Mathematics I** ***Maksym Dreval*** *Maksym Dreval (Gar.)*	Z	6	16B		PP
01DIDM2	**Didactics of Mathematics II** *Maksym Dreval **Maksym Dreval** Maksym Dreval (Gar.)*	Z,ZK	6	16B		PP
32MC-K-ODID-01	**General Didactics** *David Vaněček, Kateřina Mrázková **David Vaněček** David Vaněček (Gar.)*	Z,ZK	5	16B		PP
32MC-K-PEDO-01	**General Pedagogy** *Daniela Nováková, Martin Kursch **Daniela Nováková** Martin Kursch (Gar.)*	Z,ZK	5	16B		PP
01PTZ	**Support for Talented Pupils** *Lubomíra Dvořáková **Lubomíra Dvořáková** Lubomíra Dvořáková (Gar.)*	KZ	4	12B		PP
32ME-K-PRSK-01	**Presentation and Communication Skills**	ZK	4	16B		PP
01PPP	**Propaedeutics of Teaching Practice** ***Maksym Dreval*** *Maksym Dreval (Gar.)*	Z	6	16B		PP
32MC-K-PSEP-01	**Psychology in Educational Process** *Lenka Emrová, Eva Šírová **Eva Šírová** Lenka Emrová (Gar.)*	Z,ZK	5	16B		PP
01VPTC	**Selected Topics in Number Theory** *Zuzana Masáková **Zuzana Masáková** Zuzana Masáková (Gar.)*	ZK	3	8B		PP
01VPTG	**Selected Topics in Graph Theory** *Petr Ambrož **Petr Ambrož** Petr Ambrož (Gar.)*	ZK	3	8B		PP

Characteristics of the courses of this group of Study Plan: Code=NMSPUCIMA1 Name=NMS P_UCIMA 1. ročník

15AMV	Activating Teaching Methods	KZ	4

The student will become familiarboth theoretically and especially practicallywith activation methods used in science education, their significance, and their effective implementation in the teaching and learning process. Based on the instructional objective, the student selects an appropriate activation method and designs a segment of a lesson, including its reflection and evaluation.

01AVM	Applications of Higher Mathematics in High School Education	KZ	3
The course is intended for students of mathematics teaching. After reviewing selected parts of university mathematics, the student will propose didactic transformations of various advanced topics for use in high school in specific applications, e.g. in the field of financial mathematics, geometry, combinatorial problems, etc. The emphasis is also placed on interdisciplinary connections. The student will gain an overview useful, among other things, for motivating highschool students, teaching mathematical topics and developing fundamental competencies. The course will also include seminars with experts.			
02UINT	Didactics of Integrated Science Education	KZ	6
This course explores cross-cutting topics from the perspective of natural sciences. While mathematics, physics, and chemistry are traditionally taught as separate subjects in schools, their content frequently overlaps and intersects. In such cases, collaboration among teachers across disciplines is beneficial. The course will present several topics suitable for building interdisciplinary relationships and fostering cooperation among teachers within a school. Students will be introduced to tandem teaching and project-based learning methods.			
01DIDM1	Didactics of Mathematics I	Z	6
01DIDM2	Didactics of Mathematics II	Z,ZK	6
32MC-K-ODID-01	General Didactics	Z,ZK	5
32MC-K-PEDO-01	General Pedagogy	Z,ZK	5
The course focuses on basic knowledge of educational phenomena, processes, laws, principles, categories, and theories that form the basis of pedagogical thinking. Education and training will be discussed in the context of pedagogical sciences in connection with changes in the Czech education system over the past twenty years, namely in relation to curricular reform, diversification of the system, alternative educational concepts, and changes in vocational education.			
01PTZ	Support for Talented Pupils	KZ	4
32ME-K-PRSK-01	Presentation and Communication Skills	ZK	4
01PPP	Propaedeutics of Teaching Practice	Z	6
32MC-K-PSEP-01	Psychology in Educational Process	Z,ZK	5
The course guides students toward future applications of psychological theory in practical teaching activities. It facilitates the acquisition and development of specific skills, particularly in the area of personal development and understanding the personality traits of others. Furthermore, the course presents selected psychological knowledge necessary for understanding and guiding the educational process. This mainly concerns the characteristics and development of cognitive, motivational, and emotional processes, the psychological characteristics of individuals, and their changes in individual developmental stages, especially during adolescence.			
01VPTC	Selected Topics in Number Theory	ZK	3
01VPTG	Selected Topics in Graph Theory	ZK	3

Code of the group: NMSPUCIMA2
Name of the group: NMS P_UCIMA 2. ročník
Requirement credits in the group:
Requirement courses in the group: In this group you have to complete at least 10 courses
Credits in the group: 0
Note on the group:

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors,* ***authors*** *and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
01PDPUM	**Didactic and Pedagogic Project of the Diploma Thesis** ***Lubomíra Dvořáková*** *Lubomíra Dvořáková (Gar.)*	Z	2	4B		PP
01DPUM	**Diploma Thesis** ***Lubomíra Dvořáková*** *Lubomíra Dvořáková (Gar.)*	Z	12	2B		PP
02UICT	**ICT in Natural Science Education** *Věra Krajčová, Maksym Dreval, Lukáš Tomaník* ***Boris Tomášik*** *Věra Krajčová (Gar.)*	KZ	3	8B	Z	PP
32MC-K-OSPN-01	**Personality: Pathology and Normality**	KZ	3	8B		PP
32MC-K-SVZP-02	**Education of Pupils with Special Educational Needs in Science Subjects**	ZK	4	12B		PP
01PPS	**Teaching Practice** ***Maksym Dreval*** *Maksym Dreval (Gar.)*	Z	15	450XH		PP
01RPP	**Reflection of Teaching Practice** ***Maksym Dreval*** *Maksym Dreval (Gar.)*	Z	3	6B		PP
32MC-K-PEDS-01	**Social Pedagogy**	ZK	3	8B		PP
02USTA	**Current Trends in the Development and Application of Natural Sciences** ***Boris Tomášik*** *Boris Tomášik (Gar.)*	Z	6	16B	L	PP
32MC-K-SKMN-01	**School Management**	ZK	3	8B		PP

Characteristics of the courses of this group of Study Plan: Code=NMSPUCIMA2 Name=NMS P_UCIMA 2. ročník

01PDPUM	Didactic and Pedagogic Project of the Diploma Thesis	Z	2
The student will become familiar with the principles of writing a diploma thesis, conduct a literature search and other sources, propose a structure and method of work. At the same time, he/she will present the theoretical didactic and pedagogical part of the work. He will then present these outputs to his classmates and defend his concept.			
01DPUM	Diploma Thesis	Z	12
Under supervision, the student prepares the practical part of the diploma thesis. At the end of the semester, he presents these outputs to his classmates and defends his concept.			
02UICT	ICT in Natural Science Education	KZ	3
This course is designed for students in teacher education and introduces methods of working with ICT and their application in teaching mathematics, physics, chemistry, and natural sciences in general, taking into account the students specialization. In addition to familiarizing students with current ICT options, the course strengthens their competencies in digital technologies and communication.			
32MC-K-OSPN-01	Personality: Pathology and Normality	KZ	3
32MC-K-SVZP-02	Education of Pupils with Special Educational Needs in Science Subjects	ZK	4

01PPS	Teaching Practice	Z	15
01RPP	Reflection of Teaching Practice	Z	3
32MC-K-PEDS-01	Social Pedagogy	ZK	3
02USTA	Current Trends in the Development and Application of Natural Sciences	Z	6
This course is designed for teacher education students. It introduces students to the latest research directions in the natural sciences. Emphasis is placed on developing professional qualifications and interdisciplinary connections. The course is delivered through specialized seminars, which also include guest lectures from external experts, and features a field trip to a specialized research facility.			
32MC-K-SKMN-01	School Management	ZK	3

Name of the block: Compulsory elective courses
Minimal number of credits of the block: 0
The role of the block: PV

Code of the group: NMSPUCIMAPV
Name of the group: NMS P_UCIMA povinně volitelné předměty
Requirement credits in the group:
Requirement courses in the group: In this group you have to complete at least 2 courses
Credits in the group: 0
Note on the group:

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors,* ***authors*** *and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
32MC-K-PSHY-01	**Psycho-hygiene Aspects of Teaching Profession**	Z,ZK	3	8B		PV
32MC-K-SPKO-01	**Social and Pedagogical Communication**	KZ	3	8B		PV
32MC-K-TECR-01	**Impacts of Information Technology on Society**	Z,ZK	3	8B		PV
32MC-K-RIZZ-01	**Risk Behavior of Pupils**	KZ	3	8B		PV

Characteristics of the courses of this group of Study Plan: Code=NMSPUCIMAPV Name=NMS P_UCIMA povinně volitelné předměty

32MC-K-PSHY-01	Psycho-hygiene Aspects of Teaching Profession	Z,ZK	3
32MC-K-SPKO-01	Social and Pedagogical Communication	KZ	3
32MC-K-TECR-01	Impacts of Information Technology on Society	Z,ZK	3
32MC-K-RIZZ-01	Risk Behavior of Pupils	KZ	3

List of courses of this pass:

Code	Name of the course	Completion	Credits
01AVM	Applications of Higher Mathematics in High School Education	KZ	3
The course is intended for students of mathematics teaching. After reviewing selected parts of university mathematics, the student will propose didactic transformations of various advanced topics for use in high school in specific applications, e.g. in the field of financial mathematics, geometry, combinatorial problems, etc. The emphasis is also placed on interdisciplinary connections. The student will gain an overview useful, among other things, for motivating highschool students, teaching mathematical topics and developing fundamental competencies. The course will also include seminars with experts.			
01DIDM1	Didactics of Mathematics I	Z	6
01DIDM2	Didactics of Mathematics II	Z,ZK	6
01DPUM	Diploma Thesis	Z	12
Under supervision, the student prepares the practical part of the diploma thesis. At the end of the semester, he presents these outputs to his classmates and defends his concept.			
01PDPUM	Didactic and Pedagogic Project of the Diploma Thesis	Z	2
The student will become familiar with the principles of writing a diploma thesis, conduct a literature search and other sources, propose a structure and method of work. At the same time, he/she will present the theoretical didactic and pedagogical part of the work. He will then present these outputs to his classmates and defend his concept.			
01PPP	Propaedeutics of Teaching Practice	Z	6
01PPS	Teaching Practice	Z	15
01PTZ	Support for Talented Pupils	KZ	4
01RPP	Reflection of Teaching Practice	Z	3
01VPTC	Selected Topics in Number Theory	ZK	3
01VPTG	Selected Topics in Graph Theory	ZK	3
02UICT	ICT in Natural Science Education	KZ	3
This course is designed for students in teacher education and introduces methods of working with ICT and their application in teaching mathematics, physics, chemistry, and natural sciences in general, taking into account the students specialization. In addition to familiarizing students with current ICT options, the course strengthens their competencies in digital technologies and communication.			

02UINT	Didactics of Integrated Science Education	KZ	6
This course explores cross-cutting topics from the perspective of natural sciences. While mathematics, physics, and chemistry are traditionally taught as separate subjects in schools, their content frequently overlaps and intersects. In such cases, collaboration among teachers across disciplines is beneficial. The course will present several topics suitable for building interdisciplinary relationships and fostering cooperation among teachers within a school. Students will be introduced to tandem teaching and project-based learning methods.			
02USTA	Current Trends in the Development and Application of Natural Sciences	Z	6
This course is designed for teacher education students. It introduces students to the latest research directions in the natural sciences. Emphasis is placed on developing professional qualifications and interdisciplinary connections. The course is delivered through specialized seminars, which also include guest lectures from external experts, and features a field trip to a specialized research facility.			
15AMV	Activating Teaching Methods	KZ	4
The student will become familiarboth theoretically and especially practicallywith activation methods used in science education, their significance, and their effective implementation in the teaching and learning process. Based on the instructional objective, the student selects an appropriate activation method and designs a segment of a lesson, including its reflection and evaluation.			
32MC-K-ODID-01	General Didactics	Z,ZK	5
32MC-K-OSPN-01	Personality: Pathology and Normality	KZ	3
32MC-K-PEDO-01	General Pedagogy	Z,ZK	5
The course focuses on basic knowledge of educational phenomena, processes, laws, principles, categories, and theories that form the basis of pedagogical thinking. Education and training will be discussed in the context of pedagogical sciences in connection with changes in the Czech education system over the past twenty years, namely in relation to curricular reform, diversification of the system, alternative educational concepts, and changes in vocational education.			
32MC-K-PEDS-01	Social Pedagogy	ZK	3
32MC-K-PSEP-01	Psychology in Educational Process	Z,ZK	5
The course guides students toward future applications of psychological theory in practical teaching activities. It facilitates the acquisition and development of specific skills, particularly in the area of personal development and understanding the personality traits of others. Furthermore, the course presents selected psychological knowledge necessary for understanding and guiding the educational process. This mainly concerns the characteristics and development of cognitive, motivational, and emotional processes, the psychological characteristics of individuals, and their changes in individual developmental stages, especially during adolescence.			
32MC-K-PSHY-01	Psycho-hygiene Aspects of Teaching Profession	Z,ZK	3
32MC-K-RIZZ-01	Risk Behavior of Pupils	KZ	3
32MC-K-SKMN-01	School Management	ZK	3
32MC-K-SPKO-01	Social and Pedagogical Communication	KZ	3
32MC-K-SVZP-02	Education of Pupils with Special Educational Needs in Science Subjects	ZK	4
32MC-K-TECR-01	Impacts of Information Technology on Society	Z,ZK	3
32ME-K-PRSK-01	Presentation and Communication Skills	ZK	4

For updated information see http://bilakniha.cvut.cz/en/FF.html
Generated: day 2025-10-06, time 06:23.