ASIIN Seal

Accreditation Report

Bachelor's Degree Programmes
Teacher, Mathematics Education
Teacher, Informatics Education

Provided by
Mongolian National University of Education (MNUE)

Version: 06. December 2019

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Математик боловсролын бакалавр (Мэдэлээл зүйн багш)	Bachelor “Teacher, Mathematics Education”	ASIIN	n.a	12 Mathematics
Математик боловсролын бакалавр (мэдээлэл зүйн багш)	Bachelor “Teacher, Informatics Education”	ASIIN	n.a	04 Informatics

Date of the contract: 2017-05-10

Submission of the final version of the self-assessment report: 2017-10-20

Date of the onsite visit: 2018-02-20, 21

at: MNUE campus, Ulaanbaatar

Peer panel:

Bayarzul Batsaikhan (Letu Mongolia, Student peer)

Prof. Dr. Hans-Georg Weigand, Julius-Maximilians-Universität Würzburg (Würzburg University, Germany)

Prof. Dr. Bettina Harriehausen-Mühlbauer, Hochschule Darmstadt (University of Applied Sciences Darmstadt, Germany)

Dr. Itgel Miyejav (Mongolian Institute for Educational Research)

Representative of the ASIIN headquarter: Christoph Ascher

Responsible decision-making committee: Accreditation Commission for Degree Programmes

Criteria used:

European Standards and Guidelines as of 15.05.2015

ASIIN General Criteria, as of 28.03.2015

Subject-Specific Criteria of ASIIN Technical Committees for the accreditation of Teachers’ degrees, as of 09.12.2011

[1] ASIIN Seal for degree programmes

[2] TC: Technical Committee for the following subject areas: TC 04 - Informatics/Computer Science; TC 12 - Mathematics.

B Characteristics of the Degree Programmes

a) Name	Final degree (original/ English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/ Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Bachelor "Teacher, Mathematics Education"	Bachelor	n.a	6	Full time	no	8 semesters	121 Credits	*n/a*
Bachelor "Teacher, Informatics Education"	Bachelor	n.a	6	Full time	no	8 semesters	121 Credits	*n/a*

For the Bachelor's degree programme Mathematics Education the institution has presented the following profile in the self-assessment report (p. 7, 8):

> "A newly revised mission was linked to the teacher education policy as 'Providing an education sector with creative teachers and professionals capable to develop every single child'. In compliance with this mission, the aim of the teacher education program is formulated as 'Preparing teachers and professionals with fundamental knowledge and skills of organizing teaching based on differentiation and personal features of students, capable of applying knowledge and skills to practice, and willing to develop students and oneself'. Taking into account this aim, the Mathematics teacher education program aims to fulfill the following objectives:
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> - to acquire language skills for being able to speak, write and communicate clearly in the mother language while showing deep respect to the national history, culture, and traditions
> - to be able to express and develop oneself, explore new things, think independently, plan regularly, acquire and apply research methodology and solve problems
> - to be able to work and communicate with others while respecting social values and norms of healthy life, and human rights and freedom
> - to be capable of studying every student's development features while respecting students' differentiation and supporting their progress, achievements and development

[3] EQF = The European Qualifications Framework for lifelong learning

- taking into account students' cognitive learning principles to be able to organize learning/teaching based on scientific grounds having a sense of time and improving the implementation process through continuous evaluation
- to be motivated and dedicated for applying acquired knowledge and skills in teaching while working with others and taking care of self-development
- to understand education as a whole and to be aware of a teaching profession, teacher's work and responsibilities while meeting teaching standards and workplace requirements
- to acquire professional or mathematics and didactics knowledge and skills related to teaching and learning, curriculum development and assessment
- to acquire skills for self-development, self-management, self-assessment, technology, communication, responsibility, creative thinking and independent study
- to socialize and develop personal skills for working with others, learning from others, leadership and become aware of social responsibility"

For the Bachelor's degree programme Informatics Education the institution has presented the following profile in the self-assessment report (p. 8, 9):

"A newly revised mission was linked to the teacher education policy as 'Providing an education sector with creative teachers and professionals capable to develop every single child'. In compliance with this mission, the aim of the teacher education program is formulated as 'Preparing teachers and professionals with fundamental knowledge and skills of organizing teaching based on differentiation and personal features of students, capable of applying knowledge and skills to practice, and willing to develop students and oneself'. Taking into account this aim, the Informatics teacher education program aims to fulfil the following objectives:

- to acquire language skills for being able to speak, write and communicate clearly in the mother language while showing deep respect to the national history, culture, and traditions
- to be able to express and develop oneself, explore new things, think independently, plan regularly, acquire and apply research methodology and solve problems
- to be able to work and communicate with others while respecting social values and norms of healthy life, and human rights and freedom
- to be capable of studying every student's development features while respecting students' differentiation and supporting their progress, achievements and development

- taking into account students' cognitive learning principles to be able to organize learning/teaching based on scientific grounds having a sense of time and improving the implementation process through continuous evaluation
- to be motivated and dedicated for applying acquired knowledge and skills in teaching while working with others and taking care of self-development
- to understand education as a whole and to be aware of a teaching profession, teacher's work and responsibilities while meeting teaching standards and workplace requirements
- to be capable of designing different types of algorithms, developing programs in simple interface forms by selecting relevant technology and acquiring methodology of teaching information technology, algorithms and programs
- to be able to develop web-based multimedia content tools, set up electronic network and work in the cyber space, and create a simple database and information system
- to be aware of the use of ICT, programming, development of technical facilities, their roles in the social life, and follow social norms and ethics towards using information
- to use advanced ICT, programs, technical facilities in teaching, increase their accessibility and share personal knowledge and skills with others."

C Peer Report for the ASIIN Seal

1. The Degree Programme: Concept, content and implementation

Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)

Evidence:

- Self-Assessment Report Mathematics Education
- Self-Assessment Report Informatics Education
- On-site interviews on 2018-02-20,21
- Summary of correlation matrix (Informatics)
- Summary of correlation matrix (Mathematics)

Preliminary assessment and analysis of the peers:
In the self-assessment reports for both degree programmes, the MNUE names the programmes' objectives as cited above in section B. Apart from that, in another text, the objectives are defined by the respective lists of "Programme Learning Outcomes" (PLO), which are included in each programme's so-called "curriculum framework", and were handed in by MNUE as appendices to the self-assessment report.

It remains unclear to the peers, though, whether and where the formulations cited above in chapter B are anchored in a binding way and published so that all stakeholders can refer to them. Therefore, the peers would like MNUE to clarify on this point. In case the cited formulations from the Self-Assessment Reports were drawn up especially for the accreditation procedure and are not accessible to the public, the peers point out that short descriptions like these, in accordance with criterion 1.1, must be created and published.

The objectives for both degree programmes as cited above in chapter B are identical concerning general, i.e. non-subject-specific aspects, which are therefore treated jointly in this paragraph. The general aim of developing every single child is viable and complies with international science-based standards in school pedagogy. It furthermore acknowledges the vital role of education for the development of a modern economy. In addition to that, the reference to individualization and differentiation in school teaching is in accordance

with state-of-the-art pedagogy. Linking theory and practice in the study programme is another vital characteristic of a teacher training that aims at the professionalization of teachers. Finally, the programmes' objectives point out the importance of life-long learning for both students and teachers. The peers therefore deem these general formulations of the programmes' intended learning outcomes in the field of pedagogy viable, valid and in accordance with the international state of the art.

The intended outcomes in the field of Mathematics and Informatics, respectively, are outlined in more detail in the "Programme Learning Outcomes" (PLO).

Regarding the degree programme Mathematics Education, the PLO include intended learning outcomes in the following categories: a problem-solving approach (PLO 4.2), "fundamental concepts of geometry" (PLO 4.3), "fundamental concepts of probability theory and mathematical statistics" (PLO 4.4), "basic concepts and methods of mathematical analysis" (PLO 4.5), and "fundamental structures of algebra" (PLO 4.6). These objectives are considered appropriate for a Bachelor's degree in Mathematics education and appear to be in accordance with ASIIN criterion 1.1 and with ASIIN Subject-Specific Criteria for teacher training programmes. However, the peers recommend introducing more ICT-related content in the Mathematics Education programme – given the important role of ICT in the lives of today's students and in state-of-the-art Mathematics education.

Concerning the degree programme Informatics Education, the profile cited above (see chapter B) mentions four groups of Informatics-related learning outcomes (cf. the last four bullet points). These four sets of competences give a short and general overview of the intended qualifications profile of the graduates concerning Informatics. Objectives that are more detailed are available in the PLO list (section 4.2). In the peers' opinion, the programme's intended learning outcomes regarding informatics are appropriate for a Bachelor's degree and comply with ASIIN criterion 1.1 and with ASIIN Subject-Specific Criteria for teacher training programmes.

According to the MNUE representatives responsible for the degree programmes, current secondary school teachers, as relevant stakeholders, were included in the process of formulating the objectives and learning outcomes. The MNUE's curriculums, along with the Programme Learning Outcomes (PLO), are revised every two years, undergoing discussions on different university levels. In the peers' opinion, this procedure is appropriate for the further development of the curriculum.

On-site interviews with graduates, representatives from secondary schools and from the educational administration of Ulaanbaatar made it clear that the qualification profile of each study programme is fitting with job market demands. On the other hand, there is yet no representative amount of graduates from the degree programmes under review and no

reliable quantitative data on the graduates' job market success can be provided. The peers strongly recommend to assess the graduates' job market success and to infer quality improvement measures from the obtained results.

To sum up the assessment of ASIIN criterion 1.1, the peers point out that the cited learning outcomes of both study programmes are in accordance with the criterion.; But it must be clarified whether the cited formulations are published in that form and binding. Apart from that, the qualification profiles of both degree programmes comply with criterion 1.1.

Criterion 1.2 Name of the degree programme

Evidence:

- Self-Assessment Report Mathematics Education
- Self-Assessment Report Informatics Education
- Curriculum framework for the degree programme Teacher, Mathematics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- Curriculum framework for the degree programme Teacher, Informatics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)

Preliminary assessment and analysis of the peers:
The names of both degree programmes are transparent and unequivocal and make the intended qualification profiles very clear. The primary names of both degree programmes are in Mongolian, which is why they also reflect the main course language.

On a side note, though, there was some confusion with the English translation of the names of the degree programmes. In various documents handed in by MNUE, the designations are:

For the Mathematics teacher:

- Teacher, Mathematics Education
- Teacher, Mathematics sciences

For the Informatics teacher:

- Teacher, Mathematics Education (Teacher, Informatics Education)
- Teacher, Informatics Education
- "Bachelor's Degree Program on Mathematics Education" /Teacher, Informatics/

The peers advise programme coordinators to clarify and consistently use the translated version of the names in international contexts.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report Mathematics Education
- Self-Assessment Report Informatics Education
- Summary of correlation matrix (Informatics)
- Summary of correlation matrix (Mathematics)
- Curriculum framework for the degree programme Teacher, Mathematics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- Curriculum framework for the degree programme Teacher, Informatics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- A sample of six course descriptions
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:

The following assessment of the curriculum concepts of both degree programmes is based on the evidences mentioned above. Besides other documents, only a very small sample of six course descriptions was presented to the peers. The structure of each of these course descriptions is identical and they each present a list of CLO.

MNUE provides curriculum frameworks for both degree programmes. The programmes have very similar structures. The curricula establish direct relationships between the overall intended learning outcomes of the degree programmes (Programme Learning Outcomes, PLO) and the Course Learning Outcomes (CLO). The curriculum frameworks, the provided small sample of course descriptions, and the PLO-CLO correlation matrices are coherent and clearly illustrate which knowledge, skills and competences students are supposed to acquire in each module. The peers consider the curriculum of both degree programmes to be clear and well structured so that it should allow students to achieve the intended learning outcomes and to obtain the degree.

However, the peers consider the extension of the PLO and CLO catalogs far too voluminous. Throughout each of the programmes, a CLO list of approximately 50 pages is intended to be realized (cf. Correlation matrices for each programme). On-site interviews confirmed that the CLOs are too detailed, too “small” to be reliably controlled and evaluated. The peers doubt that such a large number of CLOs can be handled and worked with in terms of outcome-based education. In the interview panel with the teaching staff, very few representatives did succeed in illustrating and exemplifying how CLOs (and PLOs) are implemented in concrete class or course activities.

Document study and on-site interviews leave the peers with the impression that there is a gap between the curricular concepts (course descriptions, PLO-CLO matrices) on the one hand, and their implementation in day-to-day teaching on the other hand. They point out that the curriculum, in theory, seems concisely structured and very coherent, but that MNUE must provide explanations and to a certain extent proof that the concept is implemented in practice. The on-site visit did not remove all doubts as to whether the concept is put into practice by the majority of the teaching staff.

Reducing the number of CLOs (and PLOs) and at the same time formulating them in a more concrete and exemplary way is likely to provide room for improvement.

Criterion 1.4 Admission requirements

Evidence:

- Undergraduate admission regulations 2017–2018 of Mongolian National University of Education
- On-site interviews on 2018-02-20,21
- Curriculum framework for the degree programme Teacher, Mathematics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- Curriculum framework for the degree programme Teacher, Informatics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- A sample of six course descriptions
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:
Admission requirements of MNUE are laid down in the „Undergraduate admission regulations 2017–2018 of Mongolian National University of Education“. The requirements and procedures are binding and transparent for all applicants.

The main admission criterion therein is the applicant’s result in the General Entrance Exam (GEE) conducted by the Central authority on education. Applicants with a score of at least 400 out of a maximum of 800 are considered. In the peers’ opinion, considering the school-leaving grade as main admission criterion is in accordance with international standard and the relevant ASIIN criterion as well.

For the degree programmes Mathematics education and Informatics education, admission regulations further specify that the GEE score in Mathematics is the decisive factor.

Besides the GEE score, the admission regulations refer to the place of residence of the applicant. This provision aims at insuring the formation of teachers for all Mongolian regions.

This being the university's and the programmes' mission, the peers consider the provision to be suitable. The regulations furthermore include a set of rules that allows the selection of excellent applicants based on certain individual achievements (e.g.: Winning first place in a national, urban or rural Olympiad) and the selection of applicants with foreign language diplomas such as TOEFL. The peers are convinced that the well-elaborated system of full and partial scholarships is suited to ensure, to a reasonable extent, access to the university for talented students with limited financial means. According to MNUE representatives, awarding scholarships to applicants with high GEE scores is at the same time intended to attract good students and is a contributing factor to upholding and raising the academic level.

To sum up, from the perspective of the peers MNUE's admission regulations are appropriate to select suitable students, to support them in achieving the intended learning outcomes, and thereby to assure the academic level of the study programmes.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 1:

MNUE does not comment on the criterion in its statement.

The peers consider criterion 1 to be mostly fulfilled.

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Self-Assessment Report Mathematics Education
- Self-Assessment Report Informatics Education
- Summary of correlation matrix (Informatics)
- Summary of correlation matrix (Mathematics)
- Curriculum framework for the degree programme Teacher, Mathematics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- Curriculum framework for the degree programme Teacher, Informatics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)

- A sample of six course descriptions
- A sample of three graduation theses
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:

The following assessment of the structure, methods and implementation of both degree programmes is based on the evidences mentioned above. Besides other documents, only a very small sample of six course descriptions was presented to the peers. Because of the lack of course descriptions, some of the aspects of criterion 2.1 can only be assessed at a later point during the procedure.

Curriculum structure and credit system

Lacking the complete catalogue of course descriptions, the peers base their preliminary assessment of the curriculum structure and credit system mainly on the PLO-CLO matrices and on the curriculum frameworks. Each programme's curriculum framework is a plan indicating which course the students should pass in which study semester. Regarding each single course, the document includes: the course title; the number of credits earned; the number of working hours in lectures, seminars, laboratories and of self-study; information on self-study assignments. Based on this information, the following assessments can be made.

The general characteristics of the curricula of both degree programmes are very similar and are as follows:

The programmes are built up of "courses" – which in European and ASIIN terminology would be "modules". Each course is, as is required by the ASIIN criterion 2.1, a sum of teaching and learning activities (e.g. one lecture and one seminar, or one lecture and two seminars) whose contents are interrelated and form a coherent unit.

Both programmes encompass 8 semesters, i.e. 4 years. Each "main semester" (spring and fall) consists of 16 weeks of study: 15 weeks of presence and one week of online study. Between them, there are mid-semesters (winter and summer) lasting 8 weeks each. During these semesters, students are expected to repeat courses, if necessary, and it is also possible for them to earn 1-2 credits by taking elective courses, but the main courses are not offered in these periods.

The curricula are structured into four domains:

1. "General foundation courses": non-subject-specific courses of general knowledge, e.g. history, languages

2. “Teacher education courses”: Pedagogy, methodology and didactics, including six stages of structured and accompanied practical training
3. “Professional foundation courses”: Foundation courses in the science related to the school subject (Mathematics/ Informatics)
4. “Professional courses”: Advanced courses in the science related to the school subject.

There are courses of different levels following one another in each domain. That way, the study plan implements a systematic progression in all domains. Accordingly, the sample of course descriptions presented to the peers indicate prerequisites, if applicable, i.e. courses that have to be taken prior to a certain course, so that progression is ensured and students are prevented from taking courses for which they lack basic knowledge. The students confirm that the curriculum is built up in a progressing manner so that they can follow.

In both degree programmes, a student must acquire a total amount of 121 MNUE credits. Thus, for each of the 8 semesters, an average of 15 Credits serves as guideline for individual schedules. The prescribed minimum amount of credits to be taken in one semester is 10, the maximum is 21. In the study plan for the degree programme Mathematics education, the intended credits for one semester range from 14 to 18, while the semesters with 17 and 18 credits are the first two, where a larger proportion of foundation courses is planned, which are considered by the students easier than the professional courses. One exception is the final semester with 9 credits. In the degree programme Informatics education, the planned credits range from 15 to 17, also with the exception of 9 credits in the concluding semester. The peers appreciate that the credits are evenly distributed throughout the semesters, so that there are no spikes in the workload.

In each of the degree programmes, foundation courses (21 credits) and teacher education courses (pedagogy, methodology, didactics, 39 credits) together sum up to 60 credits. The professional courses (courses in the chosen school subject, i.e. Mathematics or Informatics) sum up to 61 credits. Thus, half of the curriculum consists of subject-specific courses and approximately one third of teacher education courses. The peers consider this proportion, which is comparable to international standards, appropriate for state-of-the-art teacher training programmes.

Students must take a large proportion of credits in compulsory courses (99 out of 121). The remaining 22 credits can be taken in elective courses. Compulsory and elective courses are offered by the School of Mathematics and Natural Sciences, as well as by other schools and departments of MNUE, each in reference to the subject matter. The offer of elective courses, in addition to the general foundation courses, which provide competences in a

broad field of subject matters, is deemed sufficient in order to allow students to opt for an individual study focus according to their personal interests.

On-site interviews with students of each degree programme showed that the structure of the curriculum and the requirements regarding credit proportions are transparent and well known to them.

After assessing the curriculum structure, the peers conclude that the curriculum is made up in a way that allows students to build up their competences systematically and to achieve the intended learning outcomes. The study plan shows that this is possible without exceeding the regular duration of 8 semesters.

Qualification level of the degree programmes

Considering the respective CLO and PLO tables and the respective curriculum frameworks, the peers conclude that the courses in both degree programmes are suitable to lead students to the qualification level of a Bachelor's degree in Mathematics education and Informatics education respectively.

The peers assess a sample of graduation theses and evaluate them referring to level 6 of the European Qualifications Framework (EQF) – a framework used in all Europa as a scale for the outcomes of higher education programmes, with the levels defined along the three criteria "knowledge", "skills" and "competences". EQF level 6 corresponds to the Bachelor's degree and level 7 to the Master's degree. The assessed graduation theses show that EQF level 6 is met in an acceptable way. The requirements of level 6 regarding the "knowledge" criterion are met by all theses. However, the peers think that problem-solving skills should be trained more extensively in the study programmes.

The peers also assess the structures of the curricula considering the inherent logic of the respective academic discipline (Mathematics, Informatics). The assessment is based on the curriculum frameworks that show for each semester which courses the students should take and what type of course work they will have to do. The peers conclude that in both degree programmes the curriculums are in accordance with the logic of the academic discipline, as they cover all domains relevant for a Bachelor's degree and implement a logic progression from basic content to advanced content.

Practical Training

The peers especially appreciate the teaching internships. There are six phases of practical training included in each teacher's degree programme at MNUE. The internships are well integrated in the study plan, so that students are bound to gather practical experience

without the risk of exceeding the regular course duration. With 14 credits, they amount to roughly 10 percent of overall credits.

In the interview panels with the teaching staff, the peers ask about the implementation of the internships in reality. The lecturers have convincingly demonstrated that they themselves insure that quality standards during the internships are adhered to and that learning outcomes be assured.

Partnerships with secondary schools are based on contracts; new contracts are made and new partner schools recruited every four years. MNUE lecturers accompany groups of ten students during their practicum and are responsible for the academic reflection and outcome of the internships. Students present a report of their practicum and its learning outcomes at school and at the corresponding university class.

The internships implement a progression in competences trained and in the students' degree of independence. Furthermore, each practicum focuses on a different essential teacher's competence, such as diagnosis, observation, lesson planning, lesson teaching.

Students of both study programmes confirmed that the internships are well integrated in the curriculum and are suitable to train and to practice teaching skills.

The peers consider the internships a special strength of the degree programmes under review.

Recognition of achievements and students' mobility

The rules for recognising achievements and competences acquired outside MNUE are set in section 4.12 of the Academic Regulations handed in by MNUE in English translation. They are fixed, published and sufficiently detailed. They include rules on the recognition of credits and study time, prerequisites of a transfer to MNUE, and rules about transfer fees. They also regulate that the programme office of the respective MNUE school is responsible for credit recognition. From the peers' point of view, MNUE's transfer and recognition regulations are appropriate to facilitate students' transition between universities and to ensure that incoming students can achieve the learning outcomes of their chosen degree programme.

Apart from that, the peers express their concern about the lack of the international mobility of the students of both degree programmes. Besides, according to the MNUE representatives, all courses are taught in Mongolian language, there are no courses taught in English[4].

[4] This report concentrates on the role of English as the most widely spread international language of communication and as an entrance card to international academia. The peers do concede that there are other

In consequence, there are practically no international students at MNUE, with the exception of Chinese students from the region of Inner Mongolia, who master Mongolian. Although, there is a compulsory English course among the general foundation courses, the panel with the students reveals that their English level is very low and would not be sufficient for attending classes taught in English at a university abroad. While the peers concede that this status quo might be appropriate for a university whose primary mission is to train *Mongolian* students to be teachers *in Mongolia*, they still think that international mobility, contacts and exchange are a key prerequisite for the general education of university students and for ensuring the academic level of the degree programmes as such. Furthermore, as English is the most widely spread international language of communication, especially in natural and computer sciences, English competences are important to stay in touch with state of the art science. Concluding the aspect of student mobility, the peers are of the opinion that strengthening English competences and broadening international exchange and student mobility are opportunities to further develop the programmes' quality. They therefore strongly recommend to develop and implement an internationalization strategy.

Credits and tuition fees

The peers express a concern regarding the link between the tuition fee and the credits the individual student "buys" with it. At MNUE, it is possible for a student to pay the tuition fee only in part and thereby to be granted only a limited amount of credits that he or she is allowed to study in that semester. The peers suspect that this circumstance might lead to a prolongation of study for students who cannot afford the whole amount of the tuition. Those students cannot stick to the suggested study plans and thus have problems organizing their studies and implementing the curriculum, having to find individual solutions every semester.

On a side note, the peers point out that it was very difficult to evaluate the curriculum based on the documents provided by MNUE, because they contained multiple copy-paste-errors, the layout of tables was in many occasions not helpful, and at times, the English texts were difficult to understand. The peers were able to reconstruct the curriculum's logic by comparing different document versions and inferring the correct indications themselves – but errors in the assessment are possible. Once again, the peers deem it necessary, in order to facilitate international discussions *about* and *within* the study programmes, to provide reliable and correct documents also in English.

foreign languages that might be more important for the immediate communication with Mongolia's neighbours and regional partners, such as Russian, Chinese or Korean. But as MNUE representatives declared that the study programmes are more oriented towards "western" standards than towards Russia or other Asian partners, this report lays emphasis on English language skills.

Criterion 2.2 Work load and credits

Evidence:

- Self-Assessment Report Mathematics Education
- Self-Assessment Report Informatics Education
- Curriculum framework for the degree programme Teacher, Mathematics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- Curriculum framework for the degree programme Teacher, Informatics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- A sample of six course descriptions
- On-site interviews on 2018-02-20,21
- MNUE Academic Regulations

Preliminary assessment and analysis of the peers:
The ratio of credit to workload at MNUE is fixed by the institution's terms and regulations in a way that is transparent to students and university personnel alike.

For each course, the amount of lecture hours, seminar hours, laboratory and practice hours, and estimated individual study hours are indicated in the curriculum and at least in the sample of course descriptions provided so far. The peers' questions to teachers and students make it clear that the crediting system and the workload indications are transparent to the students and staff. The peers conclude that it is easy to calculate the courses' workload and to compile an individual schedule for a semester based on the workload indications. Under criterion 2.1 above, it is explained in further detail that the curriculum framework avoids structure-related peaks in workload.

1 MNUE credit equals

- either 1 hour of lecture per week (16 in a semester) plus 2 hours of individual studies; (in sum: 3 hours of workload)
- or 2 hours of seminar per week (32 in a semester) plus 1 to 2 hours of individual studies (in sum: 3 hours of workload).

Thus, 1 credit equals 48 hours of workload on the whole semester (1 credit = 3 hours per week * 16 weeks = 48 hours per semester). The benchmark of 15 credits per semester equals a total amount of 15 * 48 = 720 total hours of workload per semester.

The peers conclude that all formal requirements of ASIIN criterion 2.2 regarding workload and credit system are met.

However, an outline of MNUE's credit system (minimum and maximum credit requirements per semester; the credits' foundation in workload) should be included in the diploma supplement in order to ensure transparency for external stakeholders.

Finally, the peers point out that, compared to the ECTS standard serving as orientation for the ASIIN criteria, the workload per MNUE credit is rather low. ECTS standards are: 1 credit equals 25 to 30 hours of workload on the whole semester. The benchmark for study plans is to take 30 credits per semester, which equals 750 to 900 total hours of workload per semester. The peers advise MNUE to consider a raise in workload, which would entail room for raising the academic level of the degree programmes.

Criterion 2.3 Teaching methodology

Evidence:

- Self-Assessment Report Mathematics Education
- Self-Assessment Report Informatics Education
- Curriculum framework for the degree programme Teacher, Mathematics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- Curriculum framework for the degree programme Teacher, Informatics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- A sample of six course descriptions
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:
The teaching methodology in the programmes under review is, in general, well balanced between lectures and seminars, and between attendance-based learning and self-study.

Several lecturers/professors use the "flipped learning" method in their courses. The method consists of reversing the classical sequence of instruction and application: In flipped learning, the students acquire instructional content at home, while the active part and the application takes place in class. The peers agree with the MNUE teachers that this method increases learning outcomes and has several other positive effects, such as increasing students' independence. Another positive example of the use of innovative teaching methods is the video lab at the disposal of teachers and classes for example to draw up online teaching material and material for flipped-learning classes. In addition, the peers appreciate that the MNUE as a whole is making a great effort to develop online teaching material and to use communication technology to conduct distance learning, e.g. with vid-

eoconference classrooms, which the peers inspected during the tour of the institution. Finally, the well-implemented internships described above (chapter 2.1) count among the commendable teaching methods.

Each of these is an example of methodology that supports the students in achieving the learning outcomes. Besides, the peers have seen several lecturers/professors serving as role models for future teachers.

The peers' overall conclusion is, though, that the applied teaching methodology still depends on the individual lecturer or professor. The peers have seen examples of good methodology and deem the lecturers and professors in general quite motivated to modernize their teaching style and to implement active participation of the students, task-based and action-based approaches. Still, the peers see room for further development regarding the promotion of these methods, for example by implementing a system of regular training activities for the teaching staff.

Criterion 2.4 Support and assistance

Evidence:

- Self-Assessment Report Mathematics Education
- Self-Assessment Report Informatics Education
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:
MNUE apparently has implemented a basic advisory system for all undergraduate students. Its main institutions are

- the office of academic programmes, which advises students on timetable compilation and on choice of elective courses
- the office of students' service, responsible for support on administrative affairs
- advisor teachers, who are teachers that individually advise students on the selection of programmes, courses, and learning plans
- the students' council, responsible for representing students' interests and offering its own support activities.

At the beginning of the first study year, there are introductory presentations in which the freshman students are informed, among other things, about academic regulations and on how to use the students' web for information and course selection. The students confirmed that there generally is a good working atmosphere and the lecturers are very inclined to

giving individual support. From them, students get general academic advice and suggestions regarding relevant careers and skills development. In the on-site discussions, students and lecturers alike confirmed that the web-based information system for students, referred to as "students' web" is well suited to provide information on academic affairs, curriculums and courses.

Summing up, the peers deem the support and assistance system of MNUE suitable to ensure basic support regarding vital matters of day-to-day academic life.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2:

MNUE does not comment on the criterion in its statement.

The peers consider criterion 2 to be mostly fulfilled.

3. Exams: System, concept and organisation

Evidence:

- Self-Assessment Report Mathematics Education
- Self-Assessment Report Informatics Education
- Curriculum framework for the degree programme Teacher, Mathematics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- Curriculum framework for the degree programme Teacher, Informatics Education (appendices 3.1 and 3.2 to the Self-Assessment Report)
- A sample of six course descriptions
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:

Regulations, assessment forms, transparency and objectivity

The exam system is set in MNUE Academic Regulations, section 4.6. The regulations are published and transparent for all stakeholders. Both degree programmes have a reasonable range of different forms of assessment in place: work assignments during the semester, midterm exams and final exams, oral or written. In the internships, there are also portfolios. The exams are course-related, so that they offer students continuous feedback on their progress in developing competences. The assessment form is in general appropriate to

cover all of the intended learning outcomes. Guidelines and a pool of exam questions are in place in order to ensure the quality of the assessment tasks. The peers deem the rules and regulations described in the self-assessment report adequate to ensure objectivity and comparability of marking.

The students are informed about the form of assessment in a particular course at the beginning of the term. There is also detailed information about the number and form of assessment in the sample of course descriptions provided so far. Course descriptions in general are accessible to students via students' web. Lecture and seminar assignments given to the students during the semesters are suited to ensure that all students learn which knowledge and competences are required in order to pass. The final grade is the result of the different activities in the course (mid-term exam, the final exam, lecturers' observation of course activity, or other given assignments). Students confirmed that exam load and preparation times are adequate.

Possibilities to retake exams

As to the time when students that fail or are sick can retake an exam, there is no information neither in the self-assessment report, nor in the Academic Regulations. Lecturers and students explain that the following rules are in place:

- On the condition that there is a minimum number of 15 students that failed and apply for a retake, an extra class is given in the mid-semester, then they can retake the exam. If there are less than 15 students, these students can only resit the exam at the end of the following semester or year, depending on when the course is offered again.
- Students whose result is below 40% (the limit to pass being 60%) have to retake the exam at the time when the course is offered again, in order to give them the opportunity to participate in the course once more. Students whose result is 40% or above can apply to retake the exam in the same semester.
- Students that are sick on the day of the exam can retake it the next time it is offered.

Students confirmed though, that it is not assured that upon failing in a fourth-year course, they can retake it in the following semester, but instead maybe only in the next year.

Considering these explanations, the details of the regulations regarding the time and conditions of retaking an exam remain unclear to the peers. The peers therefore need a translated version of relevant rules and regulations regarding that point. In particular, they point out that the ASIIN accreditation criteria require that rules for re-sits, disability compensation measures, illness etc. have been defined, and that the exam system ensures that failing

or being sick in an exam does not prolong the student's study time by more than a semester.

Interview panels revealed that students are allowed to retake exams an unlimited number of times. And there seem to be no set rules on if and how the teaching staff has to intervene. The peers point out that a limit in the number of allowed retakes is a means of managing study quality. It prevents students from spending too much time with trying and thereby weakening their opportunities to choose another career. However, the teaching staff convincingly assured that this case hardly ever happens, and that in these cases the lecturers address the student, advise him or her on his or her study activities and tutor him/her.

Bachelor's thesis

A more serious concern of the peers is that there is no bachelor's thesis or bachelor's project mandatory for all students in the degree programmes. There is only a final graduation exam.

The regulations in place for the degree programmes under review are that only those students whose final grade point average (GPA) is 3.4 or higher can choose between writing a thesis or participating in the final graduation exam. The reason for this discrimination is, according to the representatives, that it is expected that students with high GPAs are in general more interested in continuing their university studies by pursuing a master's programme after bachelor graduation. Therefore, these students are given the opportunity to write a bachelor's thesis in order to prepare for the more scientific work style in the master's programme. The representatives stated that out of the so far 57 graduates in the Mathematics education programme and the 10 graduates in the Informatics education programme, about 20% wrote a thesis.

The peers stress that it is the purpose of a bachelor's thesis that *each* graduate demonstrates his or her ability to work on a set task independently and at the level aimed for, while respecting the standards of the academic discipline. The peers emphasize that a mandatory bachelor's thesis or capstone project for all students is a major accreditation requirement.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 3:

MNUE does not comment on the criterion in its statement.

The peers consider criterion 3 to be mostly fulfilled.

4. Resources

Criterion 4.1 Staff

Evidence:

- Self-Assessment Report Mathematics Education and Informatics Education:
    - Tables of conference participation
    - personnel handbook
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:
At MNUE, the staff members assume different academic positions. There are professors, associate professors, senior teachers, teachers, assistant teachers. Senior teachers are supposed to take their PhD degree within the first 3 to 5 years of their employment. Each staff engages in research, teaching, student support and administration. For both study programmes under review, MNUE has provided a comprehensive staff handbook listing their qualifications. The School of Mathematics and Natural Sciences is responsible for carrying out both degree programmes; the Mathematics department is responsible for the Mathematics education programme, the Informatics department for the Informatics education programme.

There are 19 full-time teachers in the Mathematics department. All of them hold a Master's degree and 8 of them hold a PhD degree. 1 professor, 4 associate professors, 8 senior teachers, 3 teachers, and 3 assistant teachers work in the department. Regarding part-time staff, there are at present 1 contracted teacher, 1 assistant and 1 program specialist. At present, 4 teachers are engaged in a doctoral programme abroad (South Korea, China, Italy).

The Informatics department has 20 permanent teachers, 2 of them hold a PhD degree, the others hold a Master's degree. There are 1 professor, 1 associate professor, 3 senior teachers, and 15 teachers in the department. They are currently supported by 5 assistants, 1 programme specialist and 1 students' service officer. 4 teachers are currently engaged in a PhD program at renowned universities abroad (Beijing, Tokyo, Queensland University).

The ratio of bachelor students per lecturer overall at MNUE is 21. In the Mathematics and Informatics teacher programmes the ratio is 22.9 : 1. In accordance with general MNUE regulations, permanent teachers teach 80 percent of the credits prescribed in each of the curricula.

The workload of teachers regarding teaching is 2 to 3 courses per semester. The requirements in research differ in accordance with the teacher's position in that it rises with each

level; all full-time teachers are required to engage in research. During on-site discussions, the lecturers and professors named several of their current research projects in the fields of Mathematics and Informatics as well as in the different fields of educational studies. Several PhD students participate in the research projects. Regarding the cooperation with external partners for field research, MNUE, being a teacher training institution, mainly partners with secondary schools. The close contacts to secondary schools in the Ulaanbaatar area are used for research cooperations on a regular basis. A 3 months sabbatical leave with continued salary is granted to lecturers for the realization of their doctoral thesis. Apart from that, no sabbaticals are granted to lecturers. The peers suggest considering the possibility of granting more sabbaticals in the future.

Lecturers' and professors' contracts are temporary, but they are extended on a regular basis. In the discussion with the peers, the lecturers and professors deem their own contract situation comfortable and state that they do not worry about it. The teaching staff are content with their working conditions.

After studying the staff handbooks and conducting discussion panels with all stakeholders, the peers come to the conclusion that the composition, scientific orientation and qualification of the teaching staff are suitable for successfully implementing and sustaining both degree programmes under review.

On the other hand, the peers recommend strengthening the research activities of the teaching staff in both degree programmes. They also consider it important to further integrate the staff's research projects into teaching, so that bachelor's degree students get in touch more and earlier with up to date research.

Criterion 4.2 Staff development

Evidence:

- Self-Assessment Report Mathematics Education and Informatics Education
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:

The Mathematics department and Informatics department within the School of Mathematics and Natural Sciences have each developed and are implementing programs for teachers' professional development and department development for 2015-2018. The plans are concerned with improving teaching and research quality. There are incentives and support for teachers to acquire their PhD degree. Among them is the provision that the workplace at MNUE is saved for teachers who are participating in a professional development programme or a degree program abroad. Assistant teachers are assigned an adviser from

among the advanced teachers whose task it is to support the assistants in matters of course and curriculum planning and research.

MNUE handed in a list of the staff's participation in international research meetings and conferences for each of the degree programmes. In some cases, teachers on leave for professional development are fully paid by the decision of the MNUE president's office.

The peers discuss with the members of the teaching staff the opportunities to develop their personal skills. They learn that the teachers are satisfied with the incentives and possibilities at place within MNUE, the School of Mathematics and Natural Sciences internal and their respective department, as well as with their opportunities to further improve their didactic abilities and to spend some time abroad to attend conferences, workshops or seminars. In summary, the auditors confirm that MNUE offers sufficient support mechanisms and opportunities for members of the teaching staff who wish to further develop their professional and teaching skills.

Criterion 4.3 Funds and equipment

Evidence:

- Self-Assessment Report Mathematics Education and Informatics Education:
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:
During the audit, the peers had the opportunity to visit several MNUE buildings and classrooms, installations for videoconference-based distance learning and a video lab. In the peers' opinion, the teaching infrastructure and technical equipment is sufficient to carry out the Bachelor's degree programmes.

However, the peers noticed that in one of the inspected buildings the sanitary installations are considerably outdated. It was also a concern expressed by the students, who confirm that some of the sanitary installations need renovation. Furthermore, no elevator was installed and there was a threshold of several centimetres at every door. Under these circumstances, the building and the classrooms are difficult to access for students and staff with special needs and not at all accessible with a wheelchair. The peers suggest future investments in material infrastructure to better these study conditions. Apart from that, staff and students expressed their satisfaction with the available infrastructure and equipment.

As to administrative resources, the "student web", the online information and administration system that was introduced at MNUE four years ago, works well according to all interviewed stakeholders, including students. It is used:

a) to publish curricula, course and schedule information
b) for online course enrolment
c) to administer students' data
d) to save and communicate exam results
e) to gather students' feedback on teaching quality

The peers deem this administrative tool well suited to insure information and communication on all relevant aspects of the degree programmes.

The funds for upholding the degree programmes under review are provided and guaranteed by MNUE. As it is a state university, the buildings and their additional expenses (water, heating) are provided by the government. MNUE's financial resources are raised for the most part from tuition fees. In order to decrease the dependence on student numbers and to receive government funds, MNUE plans to extend services to the public sector and to schools (e.g. by providing trainings and publishing textbooks).

Overall, the on-site visit revealed that the study programmes under review are provided with personal and material resources, funds and infrastructure that are for the most part solid.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 4:

MNUE does not comment on the criterion in its statement.

The peers consider criterion 4 to be mostly fulfilled.

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:

- A sample of six course descriptions

Preliminary assessment and analysis of the peers:
During the on-site visit, a small sample of six course descriptions was presented in English to the peers. The following assessment of the formal requirements is based on that sample. The peers ask for a representative subset of course descriptions for both degree programmes in English language in order to get a reliable impression of the descriptions' quality and, more importantly, to assess the academic level of the courses and whether the

courses are appropriate to achieve the intended learning outcomes on both programme and module level. These module descriptions (descriptions of core modules of each degree programme) should be provided along with the MNUE's statement to the report. Based on the six course descriptions provided so far, the peers can make following assessment.

Course descriptions are accessible to all stakeholders in Mongolian language via the MNUE's electronic services (for students: "Students' web"). They have a standardized structure and contain information on the following:

- module identification code
- person(s) responsible for each module
- teaching method(s) and work load
- credit points
- intended learning outcomes
- module content
- planned use/applicability
- admission and examination requirements
- form(s) of assessment and details explaining how the module mark is calculated
- recommended literature

The peers confirm that the format and information content complies with the criteria.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Examples of diploma for both degree programmes
- Examples of transcript of records for both degree programmes

Preliminary assessment and analysis of the peers:
MNUE provided a sample for a diploma and a transcript of records that is to be handed out to students together with the diploma.

The diploma contains information on the name of the school and the title and number of the degree programme, though not the final mark(s).

The transcript of records informs about

- every course the student has taken and the marks received
- the credits allocated to each course and the sum of credits passed
- the GPA
- the marks of the final exams in (a) Mathematics or Informatics respectively, (b) educational studies

- the title of the diploma paper if there was one.

MNUE does not, however, have a Diploma Supplement in accordance with international standards and with the requirements of the ASIIN criteria. The peers note that, in order to satisfy the requirements for the ASIIN seal, subject-specific diploma supplements that are handed out to every student upon graduation have to be created and the according university regulations have to be drawn up and implemented.

A diploma supplement should contain information on the student's qualifications profile and individual performance as well as the classification of the degree programme with regard to its applicable education system (the education system in Mongolia). The individual modules and the grading procedure on which the final mark is based should be explained in a transparent manner for third parties. In addition to the final mark, statistical data as set forth in the ECTS User's Guide should be included to allow readers to categorise the individual result/degree. An outline of MNUE's credit system (minimum and maximum credit requirements per semester; the credits' foundation in workload) should also be included in order to ensure transparency for external stakeholders.

Criterion 5.3 Relevant rules

Evidence:

- Curriculum frameworks for both degree programmes
- A sample of six course descriptions
- Academic regulations
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:
MNUE provided English translations of all relevant guidelines and statutes of the university and the school.

The peers confirm that the rights and duties of both MNUE and the students are clearly defined and binding. All rules and regulations are published at least in printed form and hence available to all relevant stakeholders. In addition, all relevant course information is available in the language of the degree programme at the beginning of each semester via the information platform students' web.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 5:

MNUE does not comment on the criterion in its statement.

The peers consider criterion 5 to be mostly fulfilled.

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report Mathematics Education
- Self-Assessment Report Informatics Education
- On-site interviews on 2018-02-20,21

Preliminary assessment and analysis of the peers:
First of all, the peers note favourably that the MNUE has undertaken and is still undertaking an ambitioned reform of its study programmes, affecting every part of the university, its regulations, institutions, and not least its self-conception and the conception of teacher training. The reform is laid down in the "MNUE development policy 2014–2024". Within the framework of the development plan, MNUE developed the "new century teacher model", which aims at training Mongolian teachers in accordance with international best practice. Within the reform, MNUE has implemented outcome-based education, a credit system, a flexible schedule, and an action-based, student-centred approach in teaching, among other things. The peers explicitly appreciate the engagement of MNUE staff in the reform.

The auditors discuss the quality management system at MNUE with the programme coordinators. MNUE has installed a series of quality management measures. On a university-wide level, the Office of quality assurance and monitoring is responsible for the development and implementation of quality management. The schools and their curriculum offices are responsible for improving the degree programmes on a regular basis. In addition to that, there is one committee and two sub-committees at the School of Mathematics and Natural Sciences in charge of programme reform, evaluation and improvements.

Internal evaluation of the quality of the degree programmes is mainly provided through a student survey. It is positively noted that apart from the compulsory survey, several teachers have their own way of assessing their teaching success in cooperation with the students and of managing their teaching quality. In the survey, the students give their feedback on the courses by filling out the questionnaire online. Giving feedback on the classes is compulsory for the students; otherwise, they cannot access their account on the students' web.

The questionnaire, however, has not yet been provided to the peers for assessment. A compilation of the students' feedback is made available to the respective lecturers. Besides, the results are transmitted to the head of the department, the curriculum office and the Office of quality assurance and monitoring. In the peers' discussions with the teachers, it became apparent that they are free in their response to the results. Apart from individual motivation to improve their own teaching, no regulations are in place upon how quality improvements are to be deduced from the results. The peers note that the feedback loop is not closed: There are no rules on making the survey results accessible to the students or students' representatives, nor on discussing them within the course. As the survey is done only after the semester has ended, there is no opportunity for the teachers to react on the feedback and implement improvements in the current course.

Besides the feedback survey, MNUE has implemented a system of progress tests to assess the quality and success of their teaching: All students take a test aimed at graduation level when they enrol, i.e. as beginner students, then after every 30 credits, and at the end of their studies. The results of the progress tests are evaluated on a regular basis.

External evaluation of the MNUE's study programmes is done by accreditation by the National Council for Education Accreditation. Both programmes under review have been accredited for 2014 to 2019.

Self-assessment report and university regulations do not mention evaluation either of dropout rates from the programmes under review, or of data on graduates' job market success. While discussions with job market representatives made it clear that graduates are in general very qualified, the students showed themselves concerned about limited job market opportunities: They estimated that only about 20 percent of the bachelor's degree graduates are likely to be immediately employed at secondary schools. The rest of them, they expect, will have to find jobs elsewhere in neighbouring industries or enrol in a master's programme. From their viewpoint, MNUE is producing an oversupply of teachers at bachelor level. In order to be able to assess these two aspects, the peers ask that statistical data on dropout rates and on job-market success, together with explanations on how MNUE deduces quality management measures from them, are handed in along with the HEI's comments on the report.

To come to a conclusion, documents and discussions illustrate that a number of quality management procedures are in place and, data for quality management purposes are collected and strategies do exist. Students take part in the quality assurance process. However, the peers are not convinced that there are fixed, tested and reliable ways of "closing the loop", i.e. fixed mechanisms and responsibilities for deducing quality improvement measures from available data on a regular basis and implementing them. Especially, the

responsibilities of the particular commissions and committees on the different administrative levels are unclear to them. They ask for regulations and descriptions of procedures on quality management, course and program evaluation to be handed in in order to complete the assessment.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 6:

MNUE does not comment on the criterion in its statement.

The peers consider criterion 6 to be mostly fulfilled.

D Additional Documents

Before preparing their final assessment, the panel asks that the following missing or unclear information should be provided together with MNUE's comment on the report:

1. Provide information on intake rhythm and the first time of offer for both degree programmes (cf. table in chapter B of this report).
2. (ASIIN 1.3, 2.1, 5.1) Provide in English a representative subset of course/module descriptions across the four study years, in the format currently in use at MNUE.
3. (ASIIN 3) Provide an English version of the regulations on the exam system, especially on re-sits, disability compensation measures, case of illness etc.
4. (ASIIN 6) Provide statistical information on study success in regular time, dropout rates, and employment of graduates.
5. (ASIIN 6) Provide an English version of the regulations on quality management, course and program evaluation.

E Comment of the Higher Education Institution (31.05.2018)

The institution provided a detailed statement as well as the following additional documents:

- Descriptions of the General Foundation Courses
- Descriptions of the Teacher Education Courses
- Descriptions of the Professional Foundation Courses
- Descriptions of the Professional Informatics Courses
- Descriptions of the Professional Mathematics Courses
- Template Diploma Supplement
- Regulations on the Programme Quality Assurance
- Final Assessment Guidelines
- Extract from Academic Regulations
- Statistical Data on Enrolment, Graduation and Employment

F Summary: Peer recommendations (06.06.2018)

Taking into account the additional information and the comments given by MNUE, the peers summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ba Teacher, Mathematics Education	With requirements for one year	--	30.09.2023
Ba Teacher, Informatics Education	With requirements for one year	--	30.09.2023

Requirements

For all degree programmes

A 1. (ASIIN 1.1) Make the qualification objectives accessible for all relevant stakeholders and ensure that the stakeholders can refer to them.

A 2. (ASIIN 3) Regarding the organization of exams, rules must be defined for re-sits, disability compensation measures, illness and other mitigating circumstances etc. It must be ensured that the organization of examinations does not cause unreasonable prolongation of the studies.

A 3. (ASIIN 3) The programmes must comprise a thesis/dissertation or final project for all students, which ensures that students work on a set task independently and at the level aimed for.

A 4. (ASIIN 5.2) Ensure that a programme-specific Diploma Supplement is issued together with the diploma shortly after graduation. Ensure that the Diploma Supplement contains detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme, as well as about the individual performance of the student.

A 5. (ASIIN 6) The feedback loops need to be closed. The results of the course evaluations must be made transparent to the students and should be used for further improving the degree programmes, especially with a view to identifying and resolving weaknesses.

Recommendations

For all degree programmes

E 1. (ASIIN 2.2) It is recommended to align the hours of workload per credit with international standards.

E 2. (ASIIN 4.2) It is recommended to strengthen research activities of the teaching staff and further integrate them into teaching.

G Comment of the Technical Committees

Technical Committee 04 – Informatics (15.06.2018)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure and generally agrees with the assessment of the peers. However, recommendation E 1 is considered to be of more immediate importance and should be formulated as a requirement.

The Technical Committee 04 – Informatics recommends the award of the seals as follows:

Degree Programme	ASIIN seal	Subject-specific labels	Maximum duration of accreditation
Ba Teacher, Mathematics Education	With requirements for one year	--	30.09.2023
Ba Teacher, Informatics Education	With requirements for one year	--	30.09.2023

Requirements

For all degree programmes

A 6. (ASIIN 2.2) The workload per semester must be aligned to minimum international standards being equal to 750-900 working hours.

Technical Committee 12 – Mathematics (June 2018)

Assessment and analysis for the award of the ASIIN seal:

With regard to the report, the Technical Committee notes that it is surprising how far Mongolia and MNUE are in terms of subject-specific didactics. This is evident above all in the fact that there are no requirements under ASIIN criterion 2.

The Technical Committee approves the proposed requirements and recommendations.

The Technical Committee 12 – Mathematics recommends the award of the seals as follows:

Degree Programme	ASIIN seal	Subject-specific labels	Maximum duration of accreditation
Ba Teacher, Mathematics Education	With requirements for one year	--	30.09.2023
Ba Teacher, Informatics Education	With requirements for one year	--	30.09.2023

H Decision of the Accreditation Commission (29.06.2018)

The Accreditation Commission discusses about recommendation E 1 and the suggestion of TC 04 to change it into a requirement. Since the newly worded requirement fits better to the noticed deficits, the Accreditation Commission decides to follow the suggestion of TC 04 and changes recommendation E 1 into a requirement.

Otherwise, the Accreditation Commission approves the proposed requirements and recommendations.

The Accreditation Commission for Degree Programmes decides to award the following seals:

Degree Programme	ASIIN seal	Subject-specific labels	Maximum duration of accreditation
Ba Teacher, Mathematics Education	With requirements for one year	--	30.09.2023
Ba Teacher, Informatics Education	With requirements for one year	--	30.09.2023

Requirements

For all degree programmes

A 1. (ASIIN 1.1) Make the qualification objectives accessible for all relevant stakeholders and ensure that the stakeholders can refer to them.

A 2. (ASIIN 3) Regarding the organization of exams, rules must be defined for re-sits, disability compensation measures, illness and other mitigating circumstances etc. It must be ensured that the organization of examinations does not cause unreasonable prolongation of the studies.

A 3. (ASIIN 3) The programmes must comprise a thesis/dissertation or final project for all students, which ensures that students work on a set task independently and at the level aimed for.

A 4. (ASIIN 5.2) Ensure that a programme-specific Diploma Supplement is issued together with the diploma shortly after graduation. Ensure that the Diploma Supplement contains detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme, as well as about the individual performance of the student.

A 5. (ASIIN 6) The feedback loops need to be closed. The results of the course evaluations must be made transparent to the students and should be used for further improving the degree programmes, especially with a view to identifying and resolving weaknesses.

A 6. (ASIIN 2.2) The workload per semester must be aligned to minimum international standards being equal to 750-900 working hours.

Recommendations

For all degree programmes

E 1. (ASIIN 4.2) It is recommended to strengthen research activities of the teaching staff and further integrate them into teaching.

I Fulfilment of Requirements (28.06.2019)

Analysis of the peers and the Technical Committee/s (12.06.2019)

Requirements

For all degree programmes

A 1. (ASIIN 1.1) Make the qualification objectives accessible for all relevant stakeholders and ensure that the stakeholders can refer to them.

Initial Treatment	
Peers	Fulfilled Vote: unanimous Justification: When checking the provided links, the information is well presented in both Mongolian and English.
TC 12	fulfilled Vote: unanimous Justification: The technical committee follows the decision of the peers.
TC 4	fulfilled Vote: unanimous Justification: The technical committee follows the decision of the peers.

A 2. (ASIIN 3) Regarding the organization of exams, rules must be defined for re-sits, disability compensation measures, illness and other mitigating circumstances etc. It must be ensured that the organization of examinations does not cause unreasonable prolongation of the studies.

Initial Treatment	
Peers	Not (completely) fulfilled Vote: unanimous Justification: The rules for disabled students are very clear, but the process for all other students does not clearly present that re-sits do not lead to a prolongation of the studies. The only process described targets the measures by which students can apply to take re-sit exams. It must be made clear, however, that a re-sit can be taken soon after a failed exam so that it does not lead to a prolongation of the entire study period.
TC 12	Not fulfilled Vote: unanimous Justification: The technical committee follows the reasoning of the peers. The technical committee interprets “not completely fulfilled” as “not fulfilled” and thus regards this requirement as not fulfilled.
TC 4	Not fulfilled Vote: unanimous Justification: The technical committee follows the reasoning of the peers. The technical committee interprets “not completely fulfilled” as “not fulfilled” and thus regards this requirement as not fulfilled.

A 3. (ASIIN 3) The programmes must comprise a thesis/dissertation or final project for <u>all</u> students, which ensures that students work on a set task independently and at the level aimed for.

Initial Treatment	
Peers	Fulfilled Vote: unanimous Justification: MNUE states that by the decision of the Director’s Council of the School of Mathematics and Natural Sciences starting from 2018-2019 academic year, all students majored in Mathematics teaching are obliged to write undergraduate diploma thesis non-dependent on GPA. The same applies for the Informatics study programme. MNUE additionally provides a list of Diploma thesis from the 38 students that graduated in winter of 2018-2019.
TC 12	fulfilled Vote: unanimous Justification: The technical committee follows the decision of the peers.
TC 4	fulfilled Vote: unanimous

	Justification: The technical committee follows the decision of the peers.

A 4. (ASIIN 5.2) Ensure that a programme-specific Diploma Supplement is issued together with the diploma shortly after graduation. Ensure that the Diploma Supplement contains detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme, as well as about the individual performance of the student.

Initial Treatment	
Peers	Fulfilled Vote: Unanimous The given description is fitting and the sample of a Diploma Supplement contains all relevant information.
TC 12	fulfilled Vote: unanimous Justification: The technical committee follows the decision of the peers.
TC 4	fulfilled Vote: unanimous Justification: The technical committee follows the decision of the peers.

A 5. (ASIIN 6) The feedback loops need to be closed. The results of the course evaluations must be made transparent to the students and should be used for further improving the degree programmes, especially with a view to identifying and resolving weaknesses.

Initial Treatment	
Peers	Not (completely) fulfilled Vote: Unanimous Justification: The provided (and very extensive) explanation discusses the measures taken over the past year, but it does not specify in which way and when precisely students are involved in the entire process, i.e. how the results of the evaluations are discussed with the students. This must be made clear in a short and precise manner.
TC 12	Not fulfilled Vote: unanimous Justification: The technical committee follows the reasoning of the peers. The technical committee interprets “not completely

	fulfilled" as "not fulfilled" and thus regards this requirement as not fulfilled.
TC 4	Not fulfilled Vote: unanimous Justification: The technical committee follows the reasoning of the peers. The technical committee interprets "not completely fulfilled" as "not fulfilled" and thus regards this requirement as not fulfilled.

A 6. (ASIIN 2.2) The workload per semester must be aligned to minimum international standards being equal to 750-900 working hours.

Initial Treatment	
Peers	Not fulfilled Vote: unanimous Justification: The chart should list the workload in ECTS credits and not only in Mongolian credits. Furthermore, the explanation of the table is not acceptable as it states: "The table shows that students have816 per semester, with an average of 6528/128 = a week or 51 academic hours per week, or 38 physical hours per day." 51 hours per week is an overload and 38 hours per day is impossible.
TC 12	Not fulfilled. Vote: unanimous Justification: The technical committee follows the reasoning of the peers.
TC 4	Not fulfilled Vote: unanimous Justification: The technical committee follows the reasoning of the peers. The technical committee interprets "not completely fulfilled" as "not fulfilled" and thus regards this requirement as not fulfilled.

Decision of the Accreditation Commission (28.06.2019)

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
Ba Teacher, Mathematics Education	Requirement 2, 5, 6 not fulfilled	--	6 months prolongation
Ba Teacher, Informatics Education	Requirement 2, 5, 6 not fulfilled	--	6 months prolongation

J Fulfilment of Remaining Requirements (06.12.2019)

Analysis of the peers and the Technical Committee/s (19.11.2019)

A 2. (ASIIN 3) Regarding the organization of exams, rules must be defined for re-sits, disability compensation measures, illness and other mitigating circumstances etc. It must be ensured that the organization of examinations does not cause unreasonable prolongation of the studies.

Initial Treatment	
Peers	Not (completely) fulfilled Vote: unanimous Justification: The rules for disabled students are very clear, but the process for all other students does not clearly present that re-sits do not lead to a prolongation of the studies. The only process described targets the measures by which students can apply to take re-sit exams. It must be made clear, however, that a re-sit can be taken soon after a failed exam so that it does not lead to a prolongation of the entire study period.
TC 12	Not fulfilled Vote: unanimous Justification: The technical committee follows the reasoning of the peers. The technical committee interprets “not completely fulfilled” as “not fulfilled” and thus regards this requirement as not fulfilled.
TC 4	Not fulfilled Vote: unanimous Justification: The technical committee follows the reasoning of the peers. The technical committee interprets “not completely fulfilled” as “not fulfilled” and thus regards this requirement as not fulfilled.
Secondary Treatment	
Peers	Fulfilled Vote: unanimous Justification: The university has delivered documentation that anchors the regulations for repeat examinations. The peers gather that this regulation ensures that re-sits take place soon after the failed exam to avoid any prolongation of the study duration.

TC 12	fulfilled Vote: unanimous Justification: The technical committee 12 follows the decision of the peers.
TC 4	Not completely fulfilled Vote: unanimous (Prof. Harriehausen-Mühlbauer abstains from voting) Justification: The Technical Committee asks for a written proof showing that the regulations have been anchored in the official documents of the study program.

A 5. (ASIIN 6) The feedback loops need to be closed. The results of the course evaluations must be made transparent to the students and should be used for further improving the degree programmes, especially with a view to identifying and resolving weaknesses.

Initial Treatment	
Peers	Not (completely) fulfilled Vote: Unanimous Justification: The provided (and very extensive) explanation discusses the measures taken over the past year, but it does not specify in which way and when precisely students are involved in the entire process, i.e. how do the results of the evaluations is discussed with the students. This must be made clear in a short and precise manner.
TC 12	Not fulfilled Vote: unanimous Justification: The technical committee follows the reasoning of the peers. The technical committee interprets “not completely fulfilled” as “not fulfilled” and thus regards this requirement as not fulfilled.
TC 4	Not fulfilled Vote: unanimous Justification: The technical committee follows the reasoning of the peers. The technical committee interprets “not completely fulfilled” as “not fulfilled” and thus regards this requirement as not fulfilled.
Secondary Treatment	
Peers	Fulfilled Vote: unanimous Justification: The university presents concise yet detailed information regarding the involvement of students within the evalua-

	tion process. The peers understand that the results of the evaluations are discussed with the students and are published online as well.
TC 12	fulfilled Vote: unanimous Justification: The technical committee 12 follows the decision of the peers.
TC 4	Fulfilled Vote: unanimous (Prof. Harriehausen-Mühlbauer abstains from voting) Justification: The technical committee follows the decision of the peers.

A 6. (ASIIN 2.2) The workload per semester must be aligned to minimum international standards being equal to 750-900 working hours.

Initial Treatment	
Peers	Not fulfilled Vote: unanimous Justification: The chart should list the workload in ECTS credits and not only in Mongolian credits. Furthermore, the explanation of the table is not acceptable as it states: “The table shows that students have816 per semester, with an average of 6528/128 = a week or 51 academic hours per week, or 38 physical hours per day.” 51 hours per week is an overload and 38 hours per day is impossible.
TC 12	Not fulfilled. Vote: unanimous Justification: The technical committee follows the reasoning of the peers.
TC 4	Not fulfilled Vote: unanimous Justification: The technical committee follows the reasoning of the peers. The technical committee interprets “not completely fulfilled” as “not fulfilled” and thus regards this requirement as not fulfilled.
Secondary Treatment	
Peers	Fulfilled Vote: unanimous Justification: The conversion from Mongolian credits to ECTS is clear and reasonable.
TC 12	fulfilled Vote: unanimous

	Justification: The technical committee 12 follows the decision of the peers.
TC 4	Fulfilled Vote: unanimous (Prof. Harriehausen-Mühlbauer abstains from voting) Justification: The technical committee follows the decision of the peers.

Decision of the Accreditation Commission (06.12.2019)

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
Ba Teacher, Mathematics Education	All requirements fulfilled	--	30.09.2023
Ba Teacher, Informatics Education	All requirements fulfilled	--	30.09.2023

Appendix: Programme Learning Outcomes and Curricula

According to the Self-Assessment Report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme **Teacher, Mathematics education**:

Sets of learning outcomes	**Sub-sets of learning outcomes and number of their indicated number**
1. Teacher's values and beliefs	1.1. Knowledge, skills and attitudes on child development and beliefs - 4 1.2.Teacher's values, ethics and communication skills - 5
2. Personal basic knowledge, skills and attitudes	2.1. Knowing and becoming proud of the mother tongue, national history and culture - 5 2.2.Reading, understanding and communicating in a popular foreign language - 3 2.3.Using ICT, communicating, processing and evaluating information - 2
	2.4. Supporting healthy and safe life environment and social health - 2 2.5. Creative self-studying and self-development - 6 2.6. Cooperative work skills – 3
3. Teacher education knowledge and skills	3.1. Teacher education foundation knowledge and skills - 5 3.2. Organization of teaching taking into account learning principles -5 3.3. Fundamentals for learning / teaching, methodology of teaching - 5 3.4. Self-preparation for cooperation with a school staff - 3 3.5. Teacher profession and practical pedagogical knowledge, skills and attitudes – 3
4. Academic knowledege, skills and attitudes	4.1. Development of mathematics science, further trends and perspectives - 2 4.2. Modelling and solving real life problems, to acquire skill to solve secondary school level problems - 2 4.3. Become familiar and understand fundamental concepts of geometry, and apply methods and techniques to solve geometric problems - 3. 4.4. Understand fundamental concepts of probability theory and mathematical statistics, model and solve real life problems using mathematical methods - 4

	4.5. Understand and solve mathematical problems based upon basic concepts and methods of mathematical analysis - 4 4.6. Become able to formulate and verify mathematical hypotheses using logic principles and mathematical methods based on knowledge of fundamental structures of algebra - 3 4.7. Attitudes – 1

The following **curriculum** is presented:

Appendix 3.2

MONGOLIAN NATIONAL UNIVERSITY OF EDUCATION
SCHOOL OF MATHEMATICS AND NATURAL SCIENCES
"TEACHER, MATHEMATICS EDUCATION" CURRICULUM FRAMEWORK

1A semester (autumn): I						1C semester (spring): II				
Required courses	**Credits**	**Classroom hours**	**Self-study**	**Weeks**		**Required courses**	**Credits**	**Classroom hours**	**Self-study**	**Weeks**
S.TI201	1	32	Essay writing			E.EP202	2	48	Independent observation, research	
			Little book						Essay writing	
E.EP201	2	48	Essay writing /My life goals, Students' age Young age/			S.MH101	3	64	Collecting information on history, culture, traditions /Secret history of Mongols/	5
			Set goals, analysis of outcomes on fulfilled goals						Visiting museums and taking notes байдал	
S.IT101	2	32	Little book	7					Keeping a family tree	
			E-materials	14		M.MB302	1	32	Solving problems on flat geometry	
S.EL102	3	96	Essay writing	5					Solving problems on spacial geometry	
			Making a presentation	10		M.MB303	3	80	ISA1: Solving a problem	
			Literature reading	15					ISA2: Solving a problem	7
S.SS101	2	48	Essay writing	6					ISA3: Solving a problem	13
			Making a presentation	11					ISA4: Solving a problem	14
S.ML101	3	64	Working on correct spelling	5					ISA5: Solving a problem	
			Reading books and stories	12		M.MB304	2	48	Problem exercise	3
			Portfolio making	14					Problem exercise	
S.SS102	1	32	Course paper, little book, essay	6		S.PT102	1	32	Course paper	
			Course paper, little book, essay	13					Making a presentation	
S.PT10	1	32	Course paper			M.MB	3	64	ISA1: Solving a	

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1					305			problem	
			Making a presentation					ISA2: Solving a problem	
M.MB 301	2	64	Solving a problem					ISA3: Solving a problem	
			Introducing and defending a problem		M.TP2 30	1			
Total	**17**	**512**			**Total**	**16**	**368**		
2A semester (spring): I					**2C semester (spring): II**				
E.EP20 3	2	80	Independent observation, research		E.ES2 03	2	48	Research	
			Essay writing					Lesson study	
E.EP20 1	3	48	Studying learning strategies		M.TP2 50	2	64		
			Observation of the modern teacher		M.TM 241	3	48	Key principles of didactics	
			Studying teaching experiences					Didactics theory and application	
M.TP2 40	1	32						Developing a unit plan	
M.MA 401	3	64	ISA 3 times		M.MA 403	3	64	Problem and exercise on indefinite integral	
M.MA 402	3	64	Problem and exercise on topic "Function"					Problem and exercise on definite integral	
			Problem and exercise on function limits					Problem and exercise on calculation of differentiated function with multiple variables	
			Problem and exercise on topic "Use of traditions"		M.MA 405	1	32	Problems solved at each lesson and for indepednet assignment, topic for	

									reading	
M.MA 407	3	64	Course paper, essay, problem, exercise	2-14 д/х		M.MA 408	2	48	Exercises, problems, creative tasks to consolidate acquired theoretical knowledge	2-14 д/х
						M.MA 412	3	64	Problem and exercise on unexpected phenomena	2
									Problem and exercise on unexpected measurement	7
									Problem and exercise on charactersitics of functions, law on big numbers	11
Elective professional course	2	64				General foundation	2	64		
Total	**17**	**416**				**Total**	**18**	**432**		
3A semester (autumn): I						**3C semester (spring): II**				
M.TP260	3	96				M.TP270	3	96		
M.TM 251	3	96	Developing a lesson plan			M.MA 409	2	48	Exercises, problems, creative tasks to consolidate acquired theoretical knowledge	2-14 д/х
			Developing			M.DIE	3	64	Key simple	

			teaching realia			240			differentiated equations	
			Developing didactics on certain topic						System of simple differentiated equations	
M.MA 404	3	64	Problems solved at each lesson and for indepednet assignment, topic for reading						Studying particular differentiated equations	
E.ES202	1	32	ISA on selected topic, portfolio and reflection							
M.MA 406	1	32	Problems solved at each lesson and for indepednet assignment, topic for reading			M.MA 411	3	80		
M.MA 413	2	48	Problem and exercise on theory of selection	2						
			Problem and exercise on evaluation of parameters, and proving a hypothesis	9		Teacher education electives	2	64		
Teacher educati	2	64				General founda	2	64		

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on foundation courses						tion electives				
Total	**15**	**432**				**Total**	**15**	**416**		
4A semester (autumn): I						**4C semester (spring): II**				
M.TP280	4	128				S.SS103	1	32	ISA	
M.MA414	3	80	Geometry of mass and transformation						Grounded presentation	
			Task on inversion			Professional electives	6	192		
M.MA415	3	64	Students selected topics 3 times			S.BA490	2			
M.MA416	2	64	Complex quantitative square, order of complex numbers, problem and exercise on complex flat function							
			Integral of CFF, sequence with CFF, problem and exercise on a specific dot							

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			Problem and exercise on Residue, conformal mappings							
E.ER201	2	48	Summary writing on a studied topic and defence							
			Conducting a mini research							
			Summary writing on a research and defence							
Total	**14**	**336**				**Total**	**9**	**224**		
Grand total	**63**	**1696**				**Grand total**	**58**	**1440**		

According to the Self-Assessment Report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme **Teacher, Informatics education**:

Sets of learning outcomes	**Sub-sets of learning outcomes and number of their indicated number**
1. Teacher's values and beliefs	1.1. Knowledge, skills and attitudes on child development and beliefs - 4 1.2.Teacher's values, ethics and communication skills - 5
2. Personal basic knowledge, skills and attitudes	2.1. Knowing and becoming proud of the mother tongue, national history and culture - 3 2.2.Reading, understanding and communicating in a popular foreign language - 2 2.3.Using ICT, communicating, processing and evaluating information - 2 2.4. Supporting healthy and safe life environment and social health - 1 2.5. Creative self-studying and self-development - 6 2.6. Cooperative work skills - 3
3. Teacher education knowledge and skills	3.1. Teacher education foundation knowledge and skills - 4 3.2. Organization of teaching taking into account learning principles - 5 3.3. Fundamentals for learning / teaching, methodology of teaching - 5 3.4. Self-preparation for cooperation with a school staff - 3 3.5. Teacher profession and practical pedagogical knowledge, skills and attitudes - 3
4. Academic knowledge, skills and attitudes	4.1. Professional foundation knowledge and skills - 5 4.2. Specialization knowledge, skills and attitudes -18

The following **curriculum** is presented:

Appendix 3.2

MONGOLIAN NATIONA UNIVERSITY OF EDUCATION
SCHOOL OF MATHEMATICS AND NATURAL SCIENCES
"TEACHER, MATHEMATICS EDUCATION" CURRICULUM FRAMEWORK

1A semester (autumn): I				
Required courses	**Credits**	**Classroom hours**	**Self-study**	**Weeks**
S.TI201	1	32	Essay writing	
			Little book	
E.EP201	2	48	Essay writing /My life goals, Students' age Young age/	
			Set goals, analysis of outcomes on fulfilled goals	
S.IT101	2	32	Little book	7
			E-materials	14
S.EL102	3	96	Essay writing	5
			Making a presentation	10
			Literature reading	15
S.SS101	2	48	Essay writing	6
			Making a presentation	11
S.ML101	3	64	Working on correct spelling	5
			Reading books and stories	12
			Portfolio making	14
S.SS102	1	32	Course paper, little book, essay	6
			Course paper, little book, essay	13
S.PT101	1	32	Course paper	
			Making a presentation	
M.MB301	2	64	Solving a problem	
			Introducing and defending a problem	
Total	**17**	**448**	**20**	

1C semester (spring): II				
Required courses	**Credits**	**Classroom hours**	**Self-study**	**Weeks**
E.EP202	2	48	Independent observation, research	
			Essay writing	
S.MH101	3	64	Collecting information on history, culture, traditions /Secret history of Mongols/	5
			Visiting museums and taking notes байдал	
			Keeping a family tree	
M.MB302	1	32	Solving problems on flat geometry	
			Solving problems on spacial geometry	
M.MB303	3	80	ISA1: Solving a problem	
			ISA2: Solving a problem	7
			ISA3: Solving a problem	13
			ISA4: Solving a problem	14
			ISA5: Solving a problem	
M.MB304	3	48	Problem exercise	3
			Problem exercise	
S.PT102	1	32	Course paper	
			Making a presentation	
M.MB305	2	64	ISA1: Solving a problem	
			ISA2: Solving a problem	
			ISA3: Solving a problem	
M.TP230	1	32		
	16	**400**	**19**	

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2A (autumn) : III				
E.EP203	2	80	Independent observation, research	
			Essay writing	
E.ES201	3	64	Studying learning strategies	
			Observation of the modern teacher	
			Studying teaching experiences	
M.IT401	2	48	Course paper writing on the selected topic	
			Batch or package of files writing	
M.IT402	3	80	Solving problems within units I,II	
			Solving problems within unit III	
			Solving problems within unit IV	
M.IT403	1	32	Doing translation	
M.IT404	2	64		
M.TP240	1	32		
	2	64	**Selection of a professional package of courses**	
Нийт	16	464	12	
3A (autumn): V				
E.ER201	2	48	Summary writing on studied topics	
			Conducting a mini research	
			Writing and defending a research report	
M.IT413	3	80	ISA -1 /on assigned topic	
			ISA -2 /on assigned topic	
M.IT408	3	80	ISA -1 /on assigned topic	

	2C (spring): IV			
M.TM242	3	64	Essay	
			E-materials to use in the lesson	
			Studying documentation	
M.IT405	2	48	ISA-1	6
			ISA -2	11
M.IT409	2	48	ISA -1 /on assigned topic/	8
			ISA- 2/on assigned topic/	15
M.IT407	2	48	Course paper	
			Digital video	
M.TP250	2	64	Observation practice II	
E.ES203	2	48	Research	
			Lesson study	
M.IT411	1	32	ISA -1	
	2	**64**		**Selection of general foundation courses**
	16	416	13	
3B (winter) :	**3C (spring) : VI**			
M.IT410	3	80	ISA -1	
			ISA -2	
M.IT412	2	48	ISA -1	8-10
			ISA -2	13-15
M.IT415	2	64	ISA -1	
			ISA -2	

			ISA -2 /on assigned topic	
			ISA -3 /on assigned topic	
			ISA -4 /on assigned topic	
			ISA -5 /on assigned topic	
M.TM252	3	64	ISA -1 /on assigned topic	
			Бие даалт- ISA -2 /on assigned topic	
			ISA -3 /on assigned topic	
E.ES202	1	32	ISA -1 /on assigned topic	
M.TP260	3			
	15	304	14	
4A semester (autumn): VII				
Required courses		**15**		
M.IT416	2	48	Units 1-3	5
			Units 4-6	13
M.IT419	2	64	Audio and video materials development	
			Displaying unit teaching materials in groups	
M.IT414	2	64	ISA -1	
			ISA -2	
M.IT417	2	48	ISA -1	5
			ISA -2	6-13
M.TP280	4			
	4		**Selection of teacher education foundation courses**	
	16	224	8	

M.IT407	2	48	ISA -1	
			ISA -2	
M.IT415	2	64	ISA -1 /Set of problems/	
			ISA -2 /Course paper/	
M.TP270	3			
	2		**Selection of professional foundation courses**	
	16	304	10	
4B (winter):				
Required courses		10		
M.IT418	2	48	ISA -1	8
			ISA -2	9-15
M.IT415	2	64	ISA -1	
			ISA -2	
S.SS103	1	32	ISA -1	
			ISA -2	
M.IT406	2	48	Problem solving-I	
			Problem solving-II	
S.BA490	**2**			
	9	192	8	