

Report on the PPM knowledge at the Matej Bel University (MBU)

Matej Bel University in Banská Bystrica (Slovak Republic) is one of the leading national universities. It was established in 1992 and currently it consists of the following faculties:

- Faculty of Natural Sciences
- Faculty of Philosophy
- Faculty of Economy
- Faculty of Law
- Faculty of Education
- Faculty of Political sciences and International relations

Due to the contents of the project we concentrate ourselves to the area of mathematics, computer science and natural sciences, therefore in the following we will describe the current situation in the PPM knowledge at the Faculty of Natural Sciences.

Structure and basic data of the Faculty of Natural Sciences

The faculty was established in 1995 as a result of division of the former Faculty of Humanities and Nature science into faculties of humanities and nature science. It consists of the following departments:

- Department of Mathematics
- Department of Computer Science
- Department of Physics
- Department of Biology
- Department of Chemistry
- Department of Environmental Sciences
- Department of Geography and Geology
- Department of Technical Sciences

It offers bachelor, master and PhD studies in the above topics as well as teacher training in combination of two subjects. It has 94 academic employees and over 600 students in internal study and about 50 students in external studies. The study programs accredited and offered by the faculty are the following:

Bachelor degree:

- Forensic and Criminalistic Chemistry
- Applied Geology
- Geography
- Environmental Safety
- Ecology and Protection of Ecosystems
- Mathematics
- Applied Computer Science
- Teaching (combination of 2 subjects)

Master degree:

- Applied Chemistry and Forensic Practice
- Applied Geology
- Geography and Regional Development

- Environmental Management
- Ecology and Protection of Ecosystems
- Mathematics of Data Analysis and Finance
- Teaching (combination of 2 subjects)

Doctoral degree:

- Geochemistry
- Evolution of Ecosystems and their Protection
- Remediation of Environmental Burdens
- Mathematical Analysis
- Theory of Physics Education

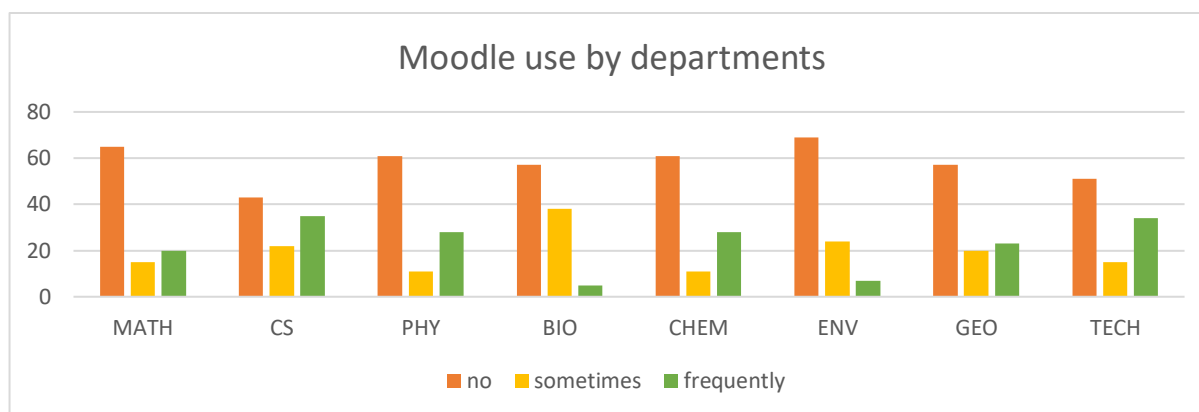
The number of students in particular programs in the academic year 2018/19 is in the following table:

Degree	Form of study		Total
	Internal	External	
<i>Bachelor</i>	383	47	430
<i>Master</i>	198	30	228
<i>Doctoral</i>	20	5	25
Total	601	82	683

Technical means for education

Thanks to the participation in previous project and institutional support all students and employees have access to computers connected to internet, including access to scientific databases, like ScienceDirect or WoS. All the departments possess computer laboratories available also to students' individual work.

The major tool for the online support of education is the Moodle software, as the university standard. In the internal study programs, there are no subjects taught exclusively by Moodle, but it serves to different levels as a complementary method of teaching.



The table above shows the percentage of subjects delivered by particular department in which Moodle is used in educational process.

Human sources

Currently the number of teaching staff at Faculty of Natural Sciences is 99. The following table shows numbers of staff members who graduated in particular scientific disciplines, i.e. not in educational programs (group A), and those who graduated in education (group B).

Department	MATH	CS	PHY	BIO	CHEM	ENV	GEO	TECH
A	7	3	3	4	5	8	2	9
B	5	12	5	9	10	1	13	3

As the table shows, the number of staff members graduated in education (58) is slightly higher than the number of graduates in particular subjects (41). Experience shows that this ratio is suitable for education in teacher training as well as e.g. advanced postdoctoral studies in mathematics, biology, chemistry, etc. Therefore, the long-term aim of the personal management is to maintain approximately equal share of the both groups.

Quality feedback

At the end of each academic year the students are asked to fill an online form about subjects they attended. Here they can evaluate the quality of teaching in 14 question, each aspect of the study can be evaluated by marks from one (the best) to five (the worst). The results of the evaluation are available to the particular lecturer and also to the head of the respective department. The outputs of the opinion poll are available to management of the faculty and heads of the departments. In case of need the didactic courses organized by the Faculty of Education are offered to particular staff members. In urgent cases passing such course can be required as a part of work duties.

During the visit of PC representatives, from May 17th to May 20th 2019, the professors at the University of Banská Bystrica introduced the activities of their departments within the Faculty of Science and Mathematics, demonstrated contemporary teaching methods that apply both in classical teaching activities and in laboratories and computer classrooms. Examples of good practice in all areas of natural science and mathematics were presented. Besides, the content of their rich library, which represents an archive available to professors and students from all universities in Slovakia, and its database was introduced to us. The visit useful for teachers from Serbia and Albania the plan for preparing the draft of a comparative analysis report on the application of modern PPM methods and modern technologies at the universities in Serbia and Albania (based on analysis of the survey) and institutions from Spain, the Czech Republic and the Slovak Republic (based on the information obtained during these visits).