

**Masaryk University,
Faculty of Science**

**Long-term Targets for Education, Research,
Development and Other Creative Activities of the
Faculty of Science MU from 2016 to 2020**



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1. Introduction

The basic mission of the Faculty of Science of Masaryk University (hereinafter the “Faculty”) is to obtain and disseminate knowledge regarding the laws of and processes taking place in living and non-living nature, and to work on utilising the findings thus obtained to improve the quality of human lives and all of society. The principal objective pursued by the Faculty in the period from 2016 to 2020 will be to ensure its balanced development, while maintaining the variety of sectors and ensuring balanced diversity of the Faculty as a whole in its three main areas of activity: basic research; top quality education; and practical application of the results throughout society. Recently, the Faculty has invested unprecedented resources in its development, especially its research and educational infrastructure. The conditions which the Faculty thus created for its students and employees are fully comparable with the conditions in other developed countries and can stand up to the highest international standards. Thus, in the coming years, it will be our task to take advantage of these conditions for further successful and harmonic development of the Faculty. In order to attain this objective, it will be crucial to find and systematically support the best researchers and students, and create preconditions and an environment for their independent creative work and personal development. In all the areas of its activity, the Faculty will strive to constantly improve its reputation and quality at the national and, primarily, international level.

MAIN PRIORITIES

1. Science and research

The Faculty’s basic priority in the area of science and research will be to ensure constant development of and support for both basic and applied research, with emphasis on quality and scientific excellence, and on improving the international character and significance of the Faculty in the broadest international context. Emphasis will also be placed on better and stronger interconnection of science and study, and on application of the newest scientific results in practice throughout society.

2. Study

In the field of education, the priority will be to achieve comprehensive development of studies and educational activities at the Faculty, while embarking on a path towards becoming a top educational institution in the broad European context. Great attention will be paid to seeking talented students for all fields taught at the Faculty, and motivating these students to study in bachelor’s, master’s and doctoral degree programmes.

3. Social role and supporting activities

In terms of developing and strengthening the social role and auxiliary activities of the Faculty, it will be our priority to develop activities aimed at creating outstanding work and study conditions for employees and students of the Faculty. In a broader context of the social role

played by universities, we will continue to support and extend the involvement of foremost personages of the Faculty in providing expert and arbitration opinions, and also in popularising science in general.

Efforts will also be made to constantly increase the quality and efficiency of all the Faculty's scientific, research and educational activities, including efficient administration and economics as well as purposeful utilisation of the scientific, research and educational infrastructure.

2. Main priorities and objectives

1. SCIENCE AND RESEARCH

1.1. Support for and development of basic research and research infrastructure

The Faculty will support and develop basic research and the associated research infrastructure, while utilising the potential especially of strategic R&D for Innovation projects and established research infrastructure (CEITEC, CETOCOEN, CEPLANT, CESEB, etc.) for the development of the Faculty, including utilisation of the potential provided by the existing Centres of Excellence of the Czech Science Foundation operating at the Faculty. It will improve the quality and international prestige of scientific teams, and develop and support human resources at both “senior researcher” and “junior researcher/postdoc” levels.

To achieve this objective, the Faculty will take the following measures:

- It will complete its research and educational infrastructure, especially with the use of resources from the Operational Programme “Research, Development and Education” (hereinafter the “OP RDE”) and will optimise their use. It will ensure sustainability of the infrastructure as far as practicable.
- It will improve its success rates in obtaining special-purpose funds at both national and international levels. It will use various grant and project schemes to provide for continuous development of the Faculty.
- It will increase the Faculty’s engagement in the H2020 projects by means of targeted and proactive support for teams with a potential to win these projects and will motivate successful teams and individuals.
- It will support and develop work conditions for good research teams, and develop and utilise the potential for intersectoral and interfaculty co-operation among scientific teams.
- It will constantly develop and improve international co-operation and support its comprehensive development at all levels, i.e. at the levels of faculty departments, teams and individual employees. It will strive to boost the international dimension of research in all directions and aspects of this activity.
- It will continue to pursue an open personnel policy aimed to recruit skilled scientists from outside the University (e.g. Ph.D. graduates, post-doctoral students and potential team leaders from leading foreign universities) and will also work on retaining its own good scientists and graduates.
- It will strive to maximise the international character of teams in the individual fields and will put emphasis on internationalising science and study. It will increase its share of publications in international scientific journals in co-operation with top foreign co-authors and institutions.
- It will establish systemic measures strengthening the research character of all the

components of the Faculty and will seek economic incentives for faculty departments and workplaces to improve the quality of their work. It will harmonise the internal faculty rules with the rules and requirements of top scientific and research institutions.

- It will consider the option of international evaluation of research, e.g. in co-operation within IN CITES, which would enable objective comparison of the quality of individual fields at both international and national levels.
- It will support the organisation of international scientific conferences, workshops, courses and summer schools by the Faculty's staff.
- It will create prerequisites for maximising the benefits of the Faculty's key scientists – develop the system of support and care for its current outstanding staff (i.e. individual support, “rescue fund”, etc.).
- It will identify new opportunities to increase the volume and quality of basic research carried out at the Faculty.
- It will increase efficiency in obtaining and utilising research equipment and co-ordinate the use of costly instruments and laboratory infrastructure with industry.
- It will strive to reduce the administrative burden borne by scientists by regularly reviewing the actual necessity of performing various administrative tasks.

1.2. Development of applied research

The Faculty will provide comprehensive support and improve the Faculty's potential for application of its research with a view to increasing the innovation performance of co-operating companies, with support from the OP RDE and the Operational Programme “Business and Innovations for Competitiveness”. The Faculty will take the following steps to achieve this objective:

- It will carry out a detailed analysis of the potential of the Faculty and its workplaces for application of its research, and will formulate the main objectives and areas of development of the Faculty in this field, focusing on increasing the scope and quality of applied research.
- It will establish targeted co-operation with companies and enterprises that use the know-how, instruments and laboratories of the Faculty to transfer the results of science into practice while ensuring increased economic benefits of applied research.
- It will create an Applied Research Board of the Faculty to co-ordinate the main objectives and procedures aimed at developing the Faculty's potential for application of its research and to transfer the results of science into practice throughout society.
- It will co-operate with enterprises and companies in training of students and experts focusing on application of the results of science in practice with a view to improving the offer of staff for innovative business, research and development.

- It will support talented students engaged in applied research and motivate them in their further development.
- It will create preconditions for co-operation with industry partners in seeking, training and improving the career prospects of bachelor's, master's and doctoral students, and promoting and developing the application of the results of science in practice.
- It will transfer knowledge obtained through applied research to bachelor's and master's degree courses and teaching practice at the Faculty.
- It will develop and support the creation and accreditation of teaching fields with an application potential in order to improve the offer of graduates prepared for innovative business.
- It will support the development of co-operation with technical universities and organisations in the Czech Republic and abroad to increase the potential for applying the Faculty's results in innovative business, research and development.
- It will create a system of incentives to support the social relevance and application potential of the Faculty's research and its measurable impact especially for healthcare, regional industry and other sectors.
- It will reduce and remove administrative barriers complicating the transfer into practice of the results of scientific research with an application potential.
- It will exploit the commercial potential of the research carried out at the Faculty as far as possible by hiring professionals for administration and management.
- It will consistently promote the Faculty's application potential, organise presentation events, and create and disseminate materials supporting the Faculty's co-operation with enterprises and companies (e.g. Doors Open Day for entrepreneurs; creation of promotional materials; updating relevant information on the website of the Faculty and its departments).

2. STUDY AND EDUCATION

2.1. Bachelor's and master's programmes

The main objective of the Faculty regarding study education will be to embark on a path towards becoming a top educational institution in the broad European context. The Faculty will take the following measures to achieve this objective:

- The Faculty will modify the admission procedure with a view to attracting students with a genuine motivation to study and thus reducing the rate of failures in the early stages of study.
- The Faculty will analyse the failure rates from time to time and take steps to reduce them.
- The Faculty will strive to develop systematic co-operation with secondary schools in education, especially of students in teaching fields, and provide information to future students by means of summer schools, “Olympics”, special competitions, doors open days, etc.
- The Faculty will develop a system of evaluating the quality of teaching.
- The Faculty will support accreditation and development of teaching in English for both domestic and foreign students.
- The Faculty will strive to attract foreign students at all levels of education it provides.
- The Faculty will strive to engage in teaching a constantly increasing number of foreign experts and specialists, and will support organisation of internships and work stays of foreign specialists at the Faculty and their integration with regular employees.
- The Faculty will support the tightest possible bonds between teaching and research, and will support a high quality and level of teaching.
- The Faculty will motivate its own and external experts and specialists to actively participate in various forms of teaching with an application potential.
- The Faculty will re-accredit applied fields of study with a view to increasing their attractiveness for students.
- The Faculty will develop a broad range of specialised degree programmes and fields with emphasis on their high quality and close connection to fields developed at the Faculty in terms of science and research.
- The Faculty will support all efforts to upgrade and restore teaching laboratories and

facilities for teaching, especially with the use of funds from the OP RDE.

- The Faculty will seek to ensure that students have access to top-quality instruments and come to know the latest technological and methodological findings and options available in the fields they study.
- The Faculty will strive for the widest possible involvement of students in the work of research teams and work on the scientific projects implemented at the Faculty.

2.2. Doctoral programmes

For further development of the Faculty and its growth as an important research institution, it is absolutely essential to support the quality of doctoral degree programmes, and create preconditions for the work of talented young scientists and co-operation with foreign partners. The Faculty will take the following measures to accomplish this crucial task:

- It will seek ways to find talented doctoral students locally and, at the same time, motivate proficient foreign applicants to join the Faculty as successful involvement of such students in Faculty's doctoral degree programmes would make it possible to minimise the impact of demographic decline on the qualitative and quantitative levels of doctoral studies. It will make use of personal contacts and the results it has achieved to popularise science and research at the Faculty abroad and to motivate talented students to pursue their Ph.D. studies at the Faculty.
- It will analyse the quality of doctoral studies at the Faculty and set binding standards for successful completion of the studies, supporting a growing quality of the Ph.D. studies and their graduates.
- It will analyse the success subsequently achieved by graduates of its doctoral degree programmes in terms of basic and applied research, as well as their success in the broadest practice.
- It will support future international co-operation by placing Ph.D. graduates at prestigious foreign institutions (effective international co-operation via mobility of Ph.D. graduates with their possible return to the Faculty).
- It will support internships of Ph.D. graduates in research institutions of the Czech Republic and abroad, and also in industry.
- It will look for ways to increase the motivation of Ph.D. students with a view to engaging them in current and future projects. It will strive to increase the number of joint projects and publications by doctoral students with foreign co-authors and partners, and strengthen international links in guiding doctoral students.

- It will strive to ensure that doctoral students go on professional and scientific internships during their studies, and support active participation of students in international conferences abroad. It will support the development of the language competences of doctoral students, especially active communication in English.
- It will create conditions for scientific work by young scientists in the “postdoc” category. It will set up an environment supporting open access for Ph.D. graduates to academic and other careers, and will monitor and publish further opportunities for graduates of doctoral studies in practice and improve their competitiveness abroad.

3. SOCIAL ROLE AND AUXILIARY ACTIVITIES

3.1. Social role

The Faculty will use the best results of scientific activities to promote and popularise its activities in the eyes of the public and to increase its significance in society as a whole. The Faculty will take the following steps to achieve this objective:

- It will strengthen and develop relationships with secondary schools and popularise study and research at the Faculty, support co-operation between the Faculty's workplaces and selected secondary schools, and also motivate secondary school teachers to engage in such co-operation. It will develop a system of specialised lectures for secondary school teachers.
- It will strengthen and develop relationships with graduates and motivate them to co-operate with the Faculty; it will address various target groups among the general public, and familiarise and inform them in suitable ways about the Faculty's success stories in all the fields of its activities. It will develop and support studies at the University of the Third Age (U3A) and lifelong learning, and increase the offer in this respect and promote these types of study in the media.
- It will inform the public about success stories and activities of the Faculty, and promote the Faculty as an important scientific, research and educational institution, not only in the Czech Republic, but also abroad, and will strive to achieve a significant position among universities of Central and Eastern Europe (e.g. in the V4 area).
- It will prepare an annual schedule of main promotional and popularisation events at the Faculty, together with their contents, staff required and financial background, with the aim to address selected target groups of secondary school students and motivate them to study at the Faculty.
- It will prepare itself for celebrations of the 100th anniversary of Masaryk University and its Faculty of Science, and will use this opportunity to boost the sense of solidarity of the staff with the Faculty and University. It will use this anniversary to promote and strengthen the positive perception of our institution among the general public.
- As far as possible, it will organise cultural, social and sports events as well as leisure time activities for the Faculty's staff and students, organise a meeting of its graduates, and support the activities of associations and interest groups at the Faculty.
- It will identify, support and develop a team of "opinion leaders" from among the Faculty's top experts, and use the expertise of these specialists to popularise the Faculty's work in the media, with emphasis on the development and utilisation of the potential of modern electronic media and social networks.
- It will support and develop consultancy and information activities for students, strengthen intra-faculty communication through electronic media and social networks (e.g. electronic

newsletter, Facebook, Twitter), including participation of students in these activities.

- Along with the actual promotional and popularisation activities, it will participate in PR events organised at the level of Masaryk University.

3.2. Auxiliary activities

The Faculty will strive to ensure efficient and economical management, and will place emphasis on meaningful development of the necessary administration, where the main objective has to be support for all the activities of the Faculty related primarily to research and teaching. The Faculty will take the following measures to attain these objectives:

- It will pay systematic attention to efficient and transparent system of economic management and budgeting at the Faculty.
- It will motivate senior employees of the Faculty and its departments to strengthen mechanisms supporting economical and efficient pursuit of all activities at the Faculty.
- It will regularly analyse the efficient deployment of funds, strive to reduce the energy intensity of buildings and operations (e.g. by insulating the energy-intensive premises at the Bohunice Campus).
- It will attempt to generate funds enabling long-term stable development of the Faculty, e.g. completion of the attics in the historical premises in Kotlářská street.
- It will systematically take care of property, buildings and research infrastructure, support the construction of Masaryk University's Simulation Centre, and attempt to build a workplace within this project enabling specialised teaching of the Faculty's students (e.g. working with and handling of highly contagious or radioactive material).
- It will support further development of faculty centres, departments and institutes (e.g. RECETOX, CEPLANT), and will develop and refurbish laboratory capacities and capacities for storing samples.
- It will strive to constantly modernise technological equipment enabling excellent research and follow-up top-quality research-oriented teaching.
- It will develop and support the use of IT at the Faculty, support applications of economic and administrative information systems in connection with the existing and future legislation, and continue to advance e-Administration.
- It will centralise the collection of key data on the Faculty's activities and will use this information to identify and eliminate administrative and legislative problems.

- It will support the development and building of computing, storage, transmission and analytical capacities, and use them for efficient management and development of all processes at the Faculty.
- It will support measures improving cyber-security at work and in communication of the Faculty staff.
- In co-ordination with the Rector's Office of Masaryk University, it will reduce the administrative burden borne by academic staff.