

Development Strategy of the Department of Biotechnology, University of Rijeka 2021-2025

Mission

To educate highly competent and employable staff, and to conduct scientific research and professional work in the interdisciplinary field of biotechnology in biomedicine, based on mutual cooperation and the principles of academic integrity, so that:

- we continuously monitor trends and dynamics of technological development, carry out modern, innovative, interdisciplinary and international study programs, scientific research and professional projects, while operating responsibly and in connection with the private sector,
 - we encourage students to think critically, responsibly and independently, as well as to be involved in scientific and professional research and to have an entrepreneurial spirit,
 - in our work, we encourage responsibility and excellence, while respecting diversity of opinion, approaches and areas of action, and promoting ethics, teamwork, commitment to a common goal, continuous training of employees and national and international networking.
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Vision

We want to be a nationally and internationally recognized Department that is a leading regional centre for education and research in the interdisciplinary field of biotechnology in biomedicine, while maintaining high employability of students, effective knowledge and technology transfer and thus affecting the development of the local community and society as a whole.

Goals

In achieving our mission and vision, we strive to improve in four strategic areas of development:

- I. learning and teaching** - to promote open education,
- II. research** - to promote innovation and economic and community development,
- III. local involvement** - to promote knowledge transfer and social responsibility for sustainable development,
- IV. internationalisation** - to promote continuous expansion of horizons and strategic partnerships.

In accordance with the Strategy of the University of Rijeka 2021 - 2025, within the above strategic areas, we first defined our quantitative development goals, which are shown in the following tables.

Secondly, we have determined qualitative goals for each of the listed strategic areas of development, which define our policies and priorities for action.

In the additional strategic area **V. internal functioning**, we have, in the same way, determined the principles of organisation, management and business processes with which we will try to provide a framework for the successful implementation of all set development goals.

I. LEARNING AND TEACHING

Goal	Indicator	Purpose	Definition	Target value
What do we want to do?	What is the indicator of success?	Why should we follow this?	How do we calculate it?	2025
1. Maintain the quality of teaching conditions	Teacher-student ratio	To improve the quality of Higher Education (HE) (THE, QS)	Ratio of full-timer teaching staff (associates and faculty members, regardless of the source of funding) in relation to the number of students enrolled in all studies (all levels and regardless of funding)	12
2. Increase the organisation and efficiency of teaching	Proportion of graduates	To improve the effectiveness of HE (U-Multirank)	The number of all graduate students divided by the number of all newly enrolled in the first year as many years ago as the prescribed duration of the corresponding study (duration of study + 1)	100%
3. Develop a personalized approach to learning	Share of ECTS achieved through the recognition of prior learning	To improve the quality, availability and relevance of HE	The number of total ECTS achieved by recognising prior learning, divided by the achieved ECTS of all students. The following are taken into account: a) recognition of learning outcomes acquired at other HE institutions, b) mobility in student exchange programs (Erasmus +, CEEPUS), c) recognition of non-formally and informally acquired competencies	5%
4. Develop students' practical competencies	Share of ECTS courses involving practical competencies	To improve the relevance of HE	The number of ECTS of professional practice divided by the total number of ECTS related study programs. The following are taken into account: a) number of ECTS courses of professional practice and b) number of ECTS from courses related to practical work	5%
5. Maintain student satisfaction with studies	Graduate satisfaction index	To improve the quality, efficiency, relevance and availability of HE	From the questionnaire for completed students - composite index consisting of grades in the following categories: satisfaction with the program and organisation of studies, content and offer of compulsory and elective courses, teaching methods and relationship with teachers, evaluation of student work, availability of learning materials and the possibility of acquiring practical competencies in the form of extracurricular activities	4.2

II. RESEARCH

Goal	Indicator	Purpose	Definition	Target value
What do we want to do?	What is the indicator of success?	Why should we follow this?	How do we calculate it?	2025
1. Increase scientific and artistic production	Number of works per scientist/artist	To improve the international competitiveness of science and art (U-Multirank, THE)	Number of scientific papers according to the Scopus/WoS database divided by the number of members of faculty (full time staff ranked assistant professor or higher)	1.82 Scopus / 2.47 WoS
2. Increase scientific impact	Share of Q1 and Exc papers	To improve the international impact of scientific work (cited in THE, QS, U-Multirank)	Number of papers in scientific journals categorized as a. Q1 and b. Exc in the previous year divided by the number of papers from 1.a.	a. 31% WoS 32% Scopus b. 4% WoS 23% Scopus
3. Attract research funding	Share of research income	To strengthen the scientific infrastructure and science system (U-Multirank, THE)	Revenue from competitive national and international grants divided by total revenue	26%
4. Strengthen doctoral education	Number of defended doctorates	To encourage scientific excellence and strengthen human resources (U-Multirank, THE)	Number of defended doctorates in doctoral studies at the University (independent or joint, joint doctorates with at least one of the mentors from the University are counted)	5
5. Attract postdoctoral students	Number of postdoctoral positions	To encourage scientific excellence and strengthen human resources (U-Multirank, THE)	Number of postdoctoral positions financed from competitive or other grants and through self-funding	7%

III. KNOWLEDGE TRANSFER AND LOCAL INVOLVEMENT

Goal		Indicator	Purpose	Definition	Target value
	What do we want to do?	What is the indicator of success?	Why should we follow this?	How do we calculate it?	2025
1.	Expand cooperation between the University and the community	Number of active collaborations with the private sector and the community	To improve cooperation with society as a whole (U-multirank)	Number of active institutional agreements in cooperation with the private sector and the community	3
2.	Attract funding for knowledge transfer projects	Share of income from professional grants for the private sector and the community	To strengthen the connection between scientific and professional work with society as a whole (U-Multirank, THE)	Revenue from all professional grants for the private sector and the community divided by total revenue	11%
3.	Offer educational programs for the economy and the community	Number of participants in educational programs for the private sector and the community	To improve the connection of HE with society as a whole (U-Multirank)	Number of participants (outside the University) in educational programs for the private sector and the community (lifelong learning, lectures)	1
4.	Increase regional impact	Proportion of graduates employed in the local county	To strengthen the regional impact of HE on the community (U-Multirank)	Number of alumni employed in the local county (Primorje-Gorski Kotar County) divided by the total number of alumni employed in the Republic of Croatia	52%
5.	Increase interdisciplinary research and development	Number of interdisciplinary research and development grants	To encourage interdisciplinary research and developmental impact on society as a whole (U-Multirank)	Number of interdisciplinary research and development grants involving business or community stakeholders	4

IV. INTERNATIONALISATION

	Goal	Indicator	Purpose	Definition	Target value
	What do we want to do?	What is the indicator of success?	Why should we follow this?	How do we calculate it?	2025
1.	Enroll more foreign students	Share of foreign students	To improve the inclusion and accessibility of HE (THE, QS, U-Multitrack)	Number of foreign students (on exchange and enrolled, duration: 1 semester or more) divided by the total number of students	5%
2.	Offer more study programs in a foreign language	Number of study programs in a foreign language	To improve the availability of HE (U-Multitrack)	Number of study programs in a foreign language: a) undergraduate; b) masters; c) combined; d) postgraduate	2
3.	Increase the mobility of academic staff	Number of academic staff in incoming and outgoing mobility	To strengthen the international visibility and competitiveness of HE and science (THE, QS, U-Multitrack)	Number of academic staff (associates and faculty) in incoming and outgoing mobility: a) up to 7 days, b) 15 days up to 3 months, c) 3 months and more	4
4.	Expand cooperation with international institutions	Number of cooperation agreements with international institutions	To strengthen the international impact of HE and science	Number of active cooperation agreements with international institutions: a) Erasmus, b) CEEPUS c) other	2
5.	Encourage international activities	Number of participants in international activities	To encourage international visibility and competitiveness of HE and science	Number of participants in international events at the University: a) summer/winter schools, b) seminars, c) conferences, d) doctoral programs (including online)	30

POLICIES / PRIORITIES OF ACTION

I. LEARNING AND TEACHING

We will offer undergraduate, masters and doctoral studies in Croatian and English, which will include modern innovative programs and competitive research projects in the interdisciplinary field of biotechnology in biomedicine.

Our study programs will be based on modern methods of learning and teaching with an increased share of practical work, higher quality of exercises through practical exercises with modern equipment, research work in the laboratories of the Department and access to state-of-the-art equipment.

We will strive to provide quality mentoring and encourage the preparation of undergraduate, masters and doctoral theses as part of competitive scientific research projects, in cooperation with the private sector and the local and wider community.

We will encourage student internships in the private sector, independent student projects, opportunities to establish start-ups and international student exchanges.

We will try to increase the possibility and capacity for conducting various forms of practical classes at the Department and external institutions and companies (Croatian and foreign) through ESF projects.

Teaching will be based on a large selection of elective courses, respect for student ideas and guest appearances by renowned scientists.

Student performance will be monitored continuously during their studies through various forms of teaching activities: writing and presenting papers, solving problems, essays, workshops, surveys, learning outcomes and teaching satisfaction, interactive meetings with teachers, individual mentoring of work on undergraduate, masters and doctoral theses, pass rate and success of students in courses, success in obtaining scholarships, awards, professional internships, publications of scientific papers, participation in conferences and symposia.

We will evaluate the quality of teaching with the help of student feedback (student surveys, interviews with student representatives, interviews with alumni), self-evaluation and mutual evaluation of teachers, interviews and questionnaires for employers on satisfaction with students' exit competencies, University assessment and re-accreditation.

We will provide feedback by continuously promoting student participation in the evaluation of teaching through various events (participation in Open Days, organisation of debates).

By strengthening the Alumni Association and through continuous cooperation with the Career Office of the Student Services Centre, the system of monitoring former students on the outcomes of what they have learned, employability of students after their studies and positioning in the labour market will be improved.

II. RESEARCH

We will gain new scientific and professional research through mutual and international cooperation, applying to national, regional and EU funding bodies for competitive scientific and infrastructure grants and funding within the private sector, hiring and training competitive scientists and administrative staff.

We will increase the number of submitted and successfully implemented grants by establishing a Funding Office that will specialise in monitoring funding bodies, informing staff about open grant calls, networking in consortia, providing assistance in writing grant applications and providing administrative, financial and legal assistance for funding nationally and internationally.

The grant funds will ensure the acquisition and maintenance of modern, sophisticated, functional and sustainable technology that will include information, bioanalytical and nanotechnology, and which will enable most members of the team to conduct scientific research.

We will ensure the strengthening of doctoral education by introducing a new program in doctoral studies with a biological orientation.

III. KNOWLEDGE TRANSFER AND LOCAL INVOLVEMENT

We will act as a driver of development - openly and socially responsible - in cooperation with the professional and social community at local, regional and international level, enabling the popularisation of science and lifelong learning through a range of activities: Open Days, Traveling Scientists, Researcher's Night, Science Festival, international summer schools, student competitions, workshops, visits to primary and secondary schools and kindergartens, volunteering programs and the gaining of experience in the laboratory for high school students through "Crazy for biotech".

In addition to activities to popularise science, we will inform the public by: modernising the website in Croatian and English, increasing the presence on social networks, producing publications, organising popular lectures and public appearances, involving people from public and political life, communicating with the media, presenting study programs and the scientific work of the Department to partners in the economy and continuously informing the wider community about the achievements of the Department.

We will present ourselves to the public as bringers of development and positive change in society, and we will fight against pseudoscience through public action.

We will encourage inclusion, openness for cooperation and networking with other components of the University of Rijeka (interdisciplinary study programs) and other institutions of the local, regional and national community in order to transfer knowledge and expertise.

IV. INTERNATIONALISATION

By increasing the visibility of scientific research work and study programs of the Department, but also by providing administrative support and mentoring systems for foreign students, we will focus on highly motivated, creative and ambitious candidates from all over Croatia and abroad who have shown excellence and enthusiasm for natural science subjects and biotechnology and who will contribute to the implementation of the Department's strategy.

We will encourage inclusion, openness for cooperation and networking with related institutions from the international community and the world's top scientific institutions in order to transfer knowledge and expertise.

V. INTERNAL FUNCTIONING

Knowledge of the mission, vision and goals of the Department will be ensured by:

- clearly defined and accessible materials that reflect our business,
- dissemination of information between all organisational units of the Department,
- regular meetings at the level of all organisational units of the Department as well as meetings with the University Administration,
- involvement of all employees in the work and activities of the Department,
- joint work of all employees on the development and revision of the development strategy of the Department,
- organisation of periodic meetings intended to present the mission, vision and goals of the Department,
- introduction of new employees to the mission, vision and goals of the Department,
- transparency in informing students about our values,
- presentations, team-building of all employees,
- highlighting the mission, vision and goals on the Department's website.

In order to increase functionality and operability, we want to be organised:

- efficiently and orderly,
- with clearly defined rights and obligations, i.e. responsibilities and authorities of organisational units and its members,
- based on scientific and teaching needs and possibilities,
- without creating interest groups,
- by establishing a hierarchy of responsibilities of organisational units of the Department at several levels,
- by eliminating unnecessary administration,
- by establishing new specialized administrative units: the Funding Office, the Finance Office and the Student Office.

Communication and information of Department members will:

- be efficient, fast and relevant,
- ensure an adequate and timely flow of information,
- use all available communication channels: e-mail, multimedia board, common web portal,
- include regular meetings of the extended college and the Council and distribution of the minutes from the meetings of the Council to all members of the Department,
- include public information on the official website,
- disseminate specific information to those members for whom the information is intended.

We will strive to build a relationship with the University Administration:

- through greater transparency, better flow of information and open dialogue,
- through correct and professional attitudes,
- through mutual understanding and respect for opinions and recognition of common needs and interests,
- through effective joint problem solving in regular meetings,
- achieving greater autonomy of the Department in certain legal and administrative matters.

We want to provide working conditions for employees:

- which are stimulating, motivating and fit for purpose (offices, IT equipment, protective clothing and footwear, fume cabinets, etc.),
- which respect individuality and ensure mutual respect and appreciation and the inclusion of all employees,
- which encourage open communication and reduces unnecessary procedures,
- that meet the needs of the workplace, but are also financially, professionally and administratively based,
- which provide greater employment opportunities for young people, training opportunities, better administrative support, more time for scientific research;
- which ensure a comfortable working environment and the availability of relevant resources,
- which ensure the psychophysical health of employees and are socially sensitive (gym, kindergarten, etc.).

We will select new members of the Department:

- according to the strategic goals and/or work (teaching and research) needs of the Department,
- according to a transparently defined internal procedure for employment,
- based on merit,
- according to pre-defined criteria for the employment of scientific and teaching staff, associates and administrative staff,
- based on quality, competence, competitiveness, mental abilities, emotional and psychological stability, international experience,
- in a procedure that requires public presentation, interviews, references (letters of recommendation) and a probationary period (fixed-term contract) for permanent employment.

We want employees who are:

- professional, capable, independent, innovative and creative,
- constructive, stable, calm, polite and flexible,
- ambitious, responsible and motivated,
- collaborative, communicative, ready for teamwork and cooperation and respect other people's opinions,
- with well-developed social skills,
- whose work contributes to the progress of the Department.

We want leadership that:

- is fair, transparent, accountable and inclusive,
- clearly defines the goals and rules, i.e. duties, rights and obligations,
- clearly defines and delegates the responsibilities and authorities of individual employees,
- ensures consistency,
- understands the field and has proven experience in a leadership role,
- has organisational and leadership skills,
- uses both authoritative and participatory leadership style,
- was selected according to pre-defined criteria for the selection of managers and representatives of the institute.

We want a performance appraisal system that:

- includes the preparation of proposed criteria that will measure and monitor the performance of all employees of the Department,
- is in line with the set vision and goals of the Department,
- includes multiple criteria, by evaluation of various aspects of scientific research, teaching and professional work (e.g. results of student surveys, publications, number of projects, number of teaching hours, teaching excellence, mentoring, group work, institutional engagement, etc.),
- monitors prescribed parameters (e.g. UNIRI portfolio statistics),
- includes public praise for success, and individual criticism for failure,
- includes mandatory creation/updating of employee portfolios (CROSBI, Google Scholar),
- includes evaluation of administrative efficiency,
- includes evaluation of employees in faculty positions on an annual basis for the purpose of career guidance (interview with the head),
- includes the introduction of annual interviews with the superior (mentor, head of the department).

The system of development of employee competencies will include:

- workshops for improving teaching methods,
- introduction of mentoring for young assistant professors,
- constant lifelong, scientific and professional training according to individual needs, but also the needs of the Department,
- going to other institutions, to specialised trainings, conferences,
- attendance and presentation of scientific research work at departmental seminars with the aim of better connections between laboratories (for each employee: once for every two years),
- workshops and courses for professional and administrative staff,
- workshops for the use of information systems for continuous monitoring of student work (ISVU, Merlin),
- workshops to improve the implementation of administrative obligations of course management (writing syllabi, student assessment, writing reports on teaching) and the study program (accreditation),
- advanced application trainings that follow the development of new technologies,
- specialized training for the use of equipment,
- education and training for writing and implementing projects (HRZZ, EU),
- training of external associates before election to the scientific-teaching title of assistant professor,
- communication courses among employees with a psychologist.

We will ensure quality and professionalism by:

- monitoring the quality of work and productivity of all employees,
- monitoring the realisation of the set goals for each individual,
- clear and transparent rules for all,
- greater autonomy in creating the personnel policy of the Department in relation to the University,
- professional behaviour, mutual respect and methods of rewarding and punishing,
- compliance with and application of all current and future documents and regulations of the Department (e.g. on disciplinary liability, activation of sanctioning mechanisms for any form of unprofessional, unethical and irresponsible behaviour and for any form of material damage to the Department or damage to the reputation of the Department and its employees),

- by introducing compulsory training for working with students and assistants for faculty staff,
- by introducing training for new employees in the Department (introduction to the system, method of assessment etc.).

The promotion system of our employees will include:

- introduction of criteria for monitoring employees who encourage excellence and competitiveness,
- transparent usage of coefficients (assigning of funds for staff salaries),
- advancement based on merit,
- maintaining the organisational structure through support of junior staff,
- defining criteria and procedures for the promotion of employees outside scientific-teaching title roles,
- drafting an internal rulebook on progress in the interdisciplinary field,
- compliance with legal regulations and adherence to the statute and regulations of UNIRI (enabling the same criteria).

Personnel analysis will include:

- evaluation of the satisfaction of all employees on an annual basis,
- introduction of a survey for teachers on satisfaction with various aspects of work (working conditions, conditions and resources for teaching, adequacy of laboratory, lecture and seminar spaces, satisfaction with the attitude of the administration, interpersonal relations, etc.).

We will encourage innovation and initiative through:

- ensuring the freedom of research work,
- institutional encouragement of innovative ideas,
- the information system,
- a reward system for achievements, effort and excellence (recognition of extracurricular activities, participation in scientific research projects/grants, mentoring in student projects, etc.).

We will reward employees:

- in accordance with the pre-agreed reward system (internal Rules on Remuneration),
- in non-material ways (e.g. praise on the Department's website, through the Council and personally, days off, employee of the year, awards and plaques),
- in material ways (e.g. cash prizes for successful projects, for publishing quality works (Q1) as the main author, etc.),
- in accordance with the parameters of the UNIRI portfolio.

We will resolve internal conflicts:

- through dialogue within the Department,
- if necessary, in the presence of a neutral third party (psychologist, lawyer, external arbitration, external commission for internal conflicts),
- through a clearly defined system of disciplinary measures and their implementation,
- through workshops, team-building activities,
- with trust and mutual respect,
- with a consistent, conciliatory policy.

We will ensure the financial sustainability of our operations through:

- responsible business,
- business rationalisation,
- communication and division of labour,
- financial monitoring of business (tuition fees, scientific and professional grants, development of commercial activities, holding workshops, conferences, new study programs, development of doctoral studies, courses and lifelong learning programs),
- the introduction of new part-time study programs with payment and lifelong learning programs,
- licensing of intellectual property,
- applying for competitive national and international funding,
- establishing Core Facilities for monitoring commercial services,
- cooperation with industry in their professional projects,
- offering professional services to industry,
- professional training at the Department.