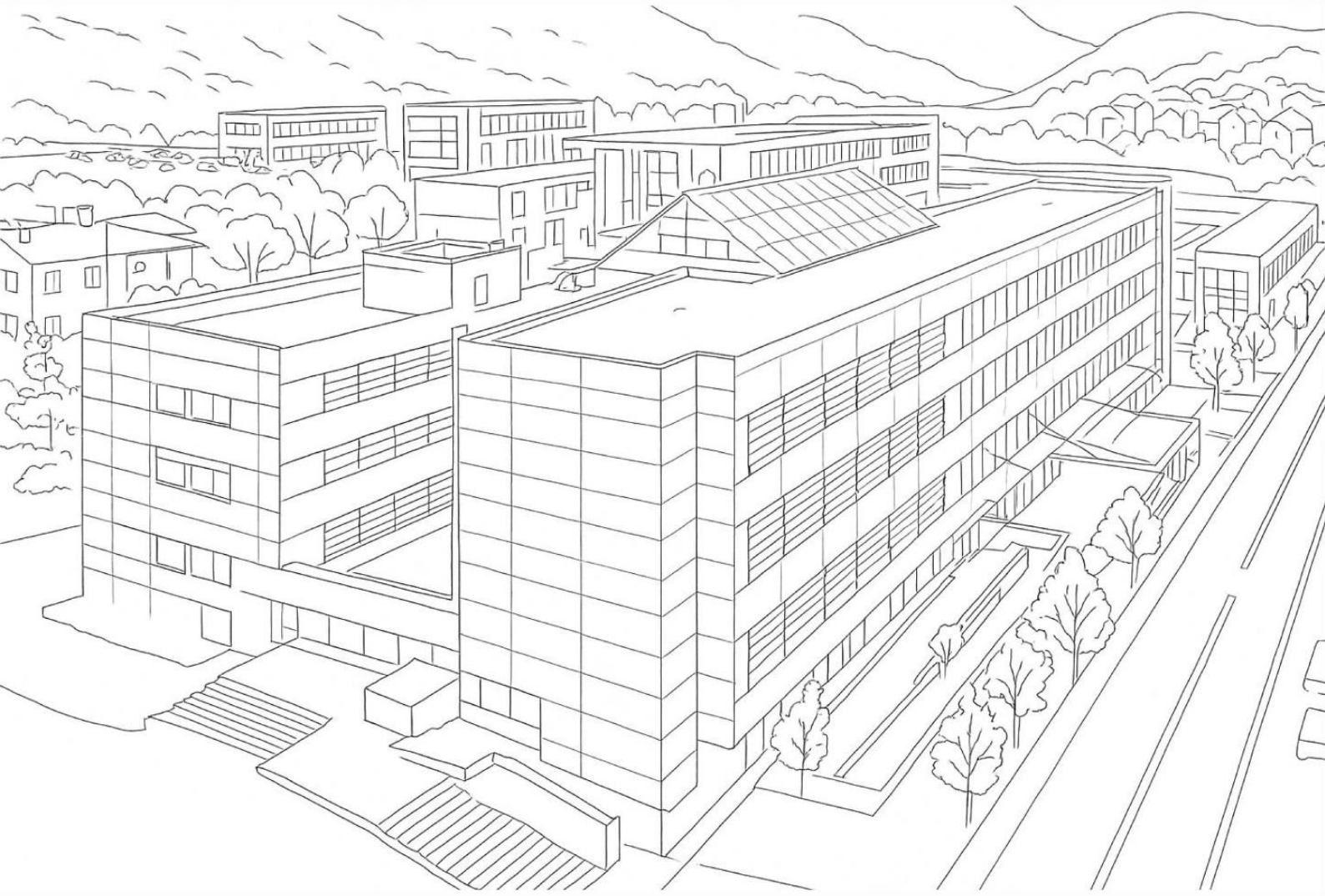
University
of Rijeka
Faculty of
Civil Engineering

SELF-EVALUATION



April, 2025

University of Rijeka
Faculty of Civil Engineering

Self-evaluation report

Name of evaluated higher education institution: **Faculty of Civil Engineering in Rijeka**

Name of university of which evaluated higher education institution is constituent unit: **University of Rijeka**

Year of establishment: 1976

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Title, name and surname of head of higher education institution: **Assoc. Prof. Mladen Bulić, PhD**

Committee for the preparation of the self-evaluation report: Working Groups

Date of adoption of the self-evaluation report by the Faculty Council/Academy Council/Polytechnic Council: **5 May 2025**

Period covered by the self-evaluation report: **academic year 2019/2020 – academic year 2023/2024,** i.e. **the calendar years 2019 to 2023.** (In some cases, more recent data are also presented to show development trends).

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INTRODUCTION

The Faculty of Civil Engineering in Rijeka (hereinafter: the Faculty) is the central educational and scientific institution for the civil engineering profession in the northern Adriatic. The Faculty traces its origins back to 1969, when the Higher Technical School of Civil Engineering in Rijeka was founded, marking the start of higher education in civil engineering in this part of Croatia. The University Study of Civil Engineering was launched in 1971, and the independent Faculty of Civil Engineering Rijeka was formally registered in 1976. Since 1977, it has been part of the University of Rijeka (hereinafter: the University), and since 1994 it has been operating as a public higher education institution which offers university studies and scientific and professional work in the field of civil engineering. Throughout its history, the Faculty has undergone several organisational and name changes but it has always maintained focus on education of highly qualified civil engineering experts and the development of scientific research. A significant step forward was made in 2011 by relocating to a new modern building on the University Campus in Rijeka, where, in addition to lecture halls and office space, there are also five state-of-the-art laboratories. From modest beginnings with just a few teachers and assistants, the Faculty has developed into a respectable institution. Today, it employs almost 80 employees and continuously invests in the development of teaching and scientific staff, infrastructure and study programmes, thus contributing to the development of the civil engineering profession, the economy and society as a whole.

Organizational structure

The structure of the Faculty is defined by the Statute and the Ordinance on the Organisation of Jobs, and is schematically shown in Figure 1.

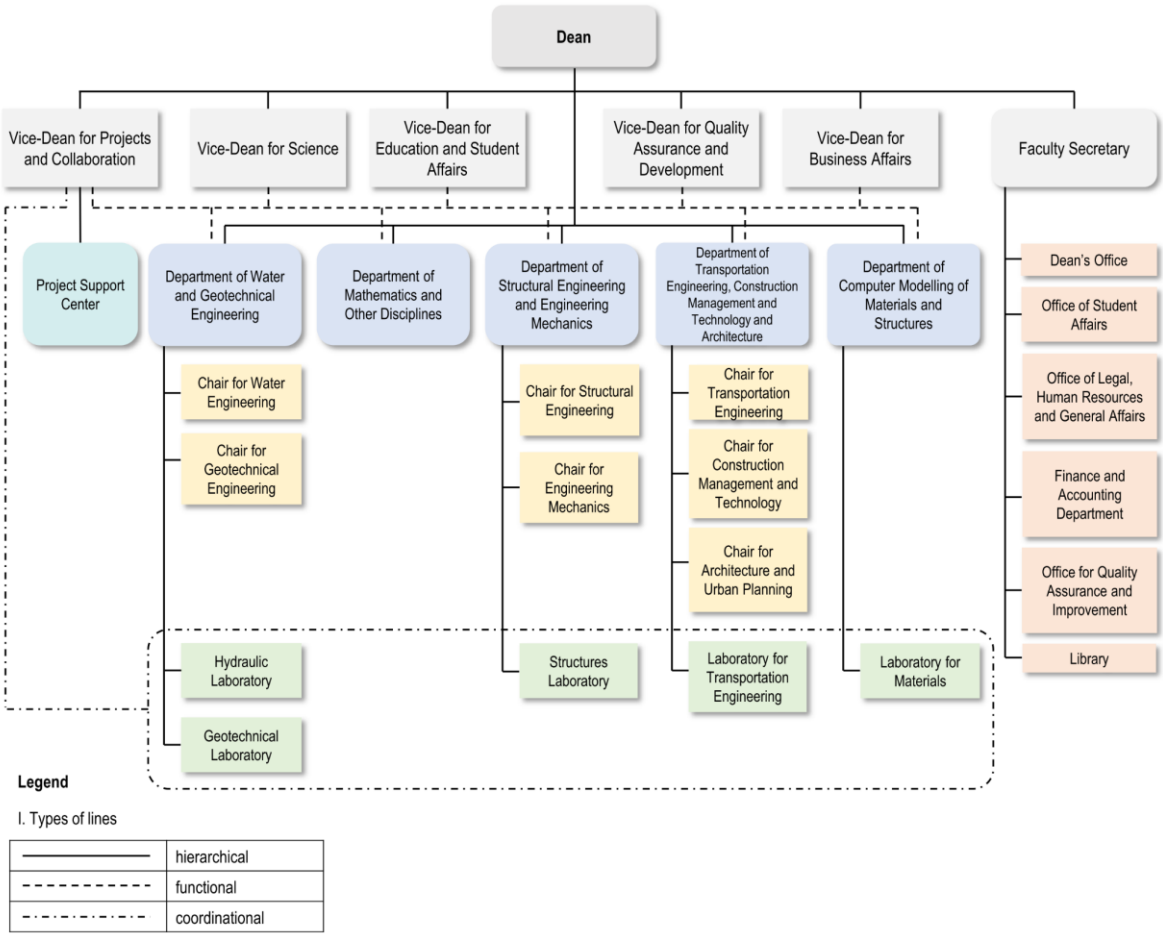

Figure 1. Structure diagram of the Faculty of Civil Engineering in Rijeka

The organisational structure of the Faculty is based on a mixed hierarchical-functional model that ensures effective management, distribution of responsibilities and support for all key academic, scientific and administrative activities. At the top of the hierarchy is the Dean, who, along with the Faculty Council, manages the Faculty and coordinates the work of all organisational units. The Dean is supported in his work by five Vice-Deans (Vice-Dean for Projects and Collaboration, Vice-Dean for Science, Vice-Dean for Education and Student Affairs, Vice-Dean for Quality Assurance and Development, and Vice-Dean for Business Affairs), secretaries and assistants appointed by the Dean's decision.

Chairs are the basic organisational form of teaching and scientific research, and laboratories are organisational units in which experimental and field teaching, scientific research and professional work is carried out. Based on the relatedness and affinity of scientific research, teaching and professional work, the Departments may consist of Chairs and laboratories as a lower form of organisational units. If the Department does not have Chairs, the activity of the Department implies the implementation of teaching and scientific research work. The Faculty is structured into five departments, each comprising Chairs and laboratories: the Department of Water and Geotechnical Engineering, the Department of Mathematics and Other Disciplines, the Department of Structural Engineering and Engineering Mechanics, the Department of Transportation Engineering, Construction Management and Technology and Architecture, and the Department of Computer Modelling of Materials and Structures.

The newly established Project Support Centre is an expert unit that provides support to research and professional projects of the Faculty, with the aim of strengthening the project activities of the Faculty. In the administrative part, the key role is played by the Faculty Secretary, who is responsible for the management of professional services including: the Dean's Office, the Office of Student Affairs, the Office of Legal, Human Resources and General Affairs, the Department of Financial and Accounting Affairs, the Quality Assurance and Improvement Board, and the Library.

Mission

The Faculty bases its mission on the Law on Higher Education and Scientific Activity, the Statute of the University of Rijeka and the Strategy of the University of Rijeka.

The mission of the Faculty is the education and professional development of academic staff in the field of civil engineering and related technical and natural science branches, based on the indivisibility of scientific work and higher education. The mission of the Faculty is also to promote civil engineering profession in the wider community and raise awareness of its significance and importance for sustainable development by promoting academic principles and values, thus contributing to the development of the city, the region and the Republic of Croatia.

The Faculty acts according to the principles of academic integrity and professional ethics, academic freedom, social responsibility and equal opportunities for all staff and students, and adopts international quality standards in evaluating its work.

Vision

The Faculty sees itself in the future as an active and internationally recognised factor in promoting the existing and creating new knowledge in the field of civil engineering and related scientific branches through synergy with higher education at all levels based on learning outcomes and lifelong learning. On its way, the Faculty shall continue its active cooperation with other University constituents and programmes of the University of Rijeka by promoting the competence, creativity, and professional and social accountability of its staff and students. The Faculty shall also promote cooperation with public institutions and business partners and shall be involved in European and global research and higher education field through international cooperation and mobility programmes.

Study Programmes

The Faculty carries out five study programmes (Figure 2) that are structured in accordance with the Bologna Process and enable students vertical and horizontal mobility within the higher education system. The Faculty develops two educational verticals: university and professional. The university vertical includes university undergraduate, university graduate, and doctoral studies in civil engineering. This vertical is focused not only on the scientific and research development of students, but also on their preparation for professional and academic challenges at higher levels of education and practice. The professional vertical includes professional undergraduate and professional graduate studies. These programmes are specifically designed to acquire concrete and applicable knowledge and skills necessary for immediate involvement in engineering practice and the labour market. The parallel existence of two educational lines allows students to choose an educational trajectory according to their career goals, interests, and ambitions. So far, more than 5000 engineers have obtained various levels of education at the Faculty of Civil Engineering in Rijeka, and 12 master's degrees and 35 doctorates have been defended.

Horizontal mobility between university and professional verticals is achieved through clearly defined mechanisms, such as transitions between university and professional studies and a bridging programme. The Faculty also organizes a preparatory course for freshmen, which plays the role in standardizing entry-level competencies of students, given that, according to many years of analyses, their competencies depend on the previously completed high school. The procedure for the recognition of prior learning, which is carried out at the Faculty consistently, transparently and according to defined procedures, is an important element of student mobility in the education area. This structure of study programmes, additional educational content, and the practice of recognizing prior learning testifies to the flexibility and openness of the Faculty to different profiles of students and its commitment to the principles of lifelong learning, accessibility and mobility in higher education.

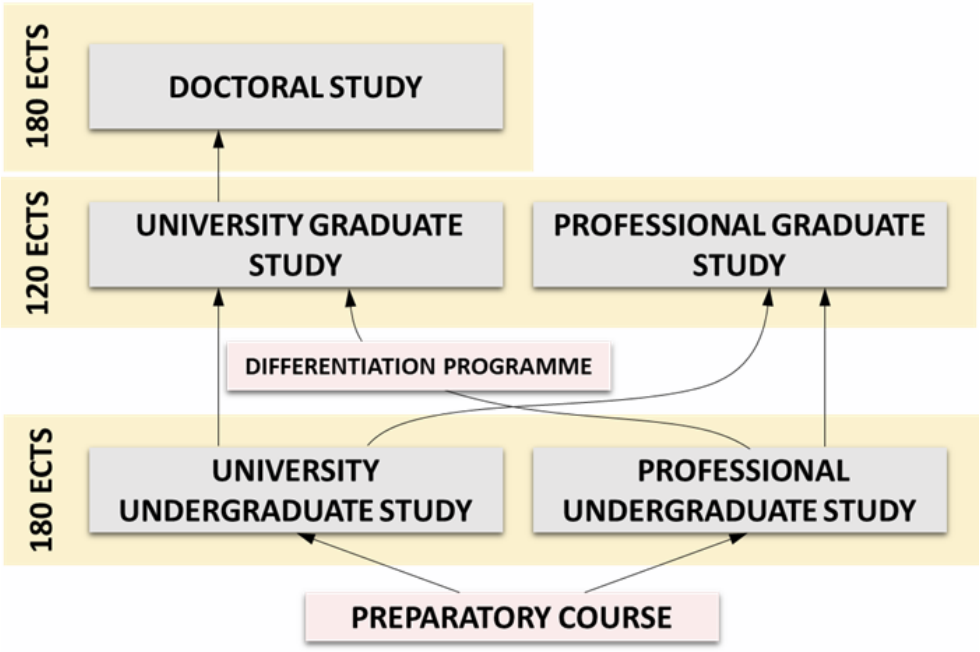

Figure 2. Overview of study programmes of the Faculty and related lifelong learning programmes

Information on how to create a self-evaluation report

According to the submitted Plan for the Re-accreditation of Higher Education Institutions in 2024 by the Agency for Science and Higher Education, the Faculty management has started drafting the proposal for the members of the committee for the preparation of self-evaluation and the implementation of re-accreditation. Dean of the Faculty, Assoc. Prof. Mladen Bulić, PhD, has appointed five Working Groups tasked with preparing parts of the Self-Evaluation Report related to specific topics, and the Vice-Deans coordinated the work within the working groups related to their areas of responsibility. Employees from the professional services have also been actively involved in the entire self-evaluation process. Working Groups (Decisions):

I. HIGHER EDUCATION INSTITUTION MANAGEMENT AND QUALITY ASSURANCE

Coordinator: Assoc. Prof. Nina Čeh, PhD, Vice-Dean for Quality Assurance and Development

Members: Prof. Ivana Štimac Grandić, PhD
Assoc. Prof. Silvija Mrakovčić, PhD
Prof. Ivan Marović, PhD
Assist. Prof. Edita Papa Dukić, PhD
Damjan Jurković, MEng, research assistant

II. STUDY PROGRAMMES AND LIFELONG LEARNING PROGRAMMES

Coordinator: Assoc. Prof. Neira Torić Malić, PhD, Vice-Dean for Education and Student Affairs

Members: Prof. Aleksandra Deluka Tibljaš, PhD
Assoc. Prof. Ivana Sušanj Čule, PhD
Assist. Prof. Teo Mudrić, PhD
Assist. Prof. Josip Peranić, PhD
Assist. Prof. Ksenija Tijanić Štrok, PhD
Marta Marija Gržić, MEng, research assistant
Anđela Horvat, univ. mag. oec.

III. STUDENT-CENTERED LEARNING AND TEACHING - TEACHING PROCESS AND STUDENT SUPPORT

Coordinator: Assoc. Prof. Neira Torić Malić, PhD, Vice-Dean for Education and Student Affairs

Members: Prof. Barbara Karleuša, PhD
Assist. Prof. Marijana Cuculić, PhD
Assist. Prof. Petra Jagodnik, PhD
Assist. Prof. Rozarija Mikić, PhD
Assist. Prof. Paulo Šćulac, PhD
Iva Prevendar, undergraduate student

IV. TEACHING CAPACITIES AND INFRASTRUCTURE OF HIGHER EDUCATION INSTITUTION

Coordinator: Assist. Prof. Elvis Žic, PhD, Vice-Dean for Business Affairs

Members: Prof. Nevenka Ožanić, PhD
Prof. Vanja Travaš, PhD
Assoc. Prof. Željko Smolčić, PhD
Assoc. Prof. Paulina Krolo, PhD
Assist. Prof. Denis Ambruš, PhD
Robert Brušnjak, LL.M.
Nataša Ilić-Huserik, univ. mag. oec.

V. RESEARCH/ARTISTIC AND PROFESSIONAL ACTIVITY

Coordinators: Prof. Leo Škec, PhD, Vice-Dean for Science

Members: Assoc. Prof. Nino Krvavica, PhD, Vice-Dean for Projects and Collaboration
Prof. Gordan Jelenić, PhD
Assoc. Prof. Sanja Dugonjić Jovančević, PhD
Prof. Igor Ružić, PhD
Kristina Galjanić, MEng, PhD student (GP Krk)
Filip Horvat, MInfSc, head of the library

For the purpose of self-evaluation, the Faculty organized a coordinated data collection, cooperation of various stakeholders and the use of specialized digital tools. At the very beginning, shared folders and documents were opened, which enabled the division of work by topic and monitoring of progress. During the drafting period, meetings of working groups, members of the committee and the Management Board were held, as well as thematic consultations with employees from professional services. The Faculty Management coordinated the work of teachers, associates and administrative staff in charge of data delivery and processing.

All parts of the self-evaluation were made on the basis of data from relevant databases (ISVU, CroRIS, project database, Provis, NISpVU, CES), as well as from internal sources – reports, minutes, plans and strategic documents of the Faculty and the University of Rijeka. In addition, previously prepared reports were used, such as the Self-evaluation report from the previous re-accreditation cycle, the Internal Audit Report and the results of external evaluations. Parallel to the writing process, technical activities were carried out to enter and validate data into the CroRIS system, which became fully functional at the end of January 2024. In order to be able to operate CroRIS and ISPIK, Faculty employees in administrative and editorial roles participated in organized training during December 2024, and January and February 2025. The entire process was based on digital tools for collaboration and sharing, with a clear division of responsibilities and exchange of information between the management, the holders of individual parts of the self-evaluation and the persons in charge of technical and substantive preparation of documentation. By doing so, the Faculty ensured transparent and documented preparation for external assessment.

The self-evaluation of the Faculty of Civil Engineering in Rijeka is based on the Quality Standards for Evaluation in the Re-accreditation Process, examples of good practice resulting from the previous cycle of internal and external assessment of the Faculty's quality system, and the European Standards and Guidelines for Quality Assurance in Higher Education, ESG). In the remainder of this document, all parameters of the quality assurance system are analysed and everything is supported by evidence through links to publicly available information and documents, as well as additional sources collected for this purpose.

The self-evaluation was adopted at the session of the Faculty Council held on 5 May 2025.

Note: For all five topics, it is necessary to refer to each element and indicator within each standard and support the statements with evidence in the form of giving examples or placing a hyperlink to the relevant documents.

I. HIGHER EDUCATION INSTITUTION MANAGEMENT AND QUALITY ASSURANCE

The Faculty of Civil Engineering in Rijeka (hereinafter referred to as the Faculty) operates as an independent constituent of the University of Rijeka (hereinafter referred to as the University), a public university, with a management system that ensures transparency, efficiency and accountability in all segments of work, from strategic planning, organisation of teaching and scientific research to human and material resources management. The management of the Faculty is based on the applicable legislative framework, the Statute of the Faculty and the University, and general acts that regulate internal processes. The Faculty Management, together with the Faculty Council, committees, commissions and offices, leads the Faculty in accordance with the principles of academic autonomy, expertise and inclusiveness, with special emphasis on an institutionalized and regularly evaluated quality assurance system (SOK). Decisions are made through dialogue and the involvement of all relevant stakeholders – teaching and non-teaching staff, students and the wider community. The quality system covers all levels of work, including study programmes, scientific activity and the work of professional services. The activities of the Committee for Quality Assurance and Improvement and the involvement of teachers and students enable compliance with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) and the goals of the Faculty and the University. The Faculty, as a constituent part of the University of Rijeka, has accepted and directly applies the regulations, manuals, guidelines and other acts of the University of Rijeka as operational documents, and elaborates and defines them in more detail in its documents.

I.1 The mission of a higher education institution guides the process of operational planning and the development of quality assurance processes.

The higher education institution has a publicly available state-of-the-art mission, which represents the framework and direction of action, along with the defined values and objectives.

The Faculty has a clearly defined, modern and publicly announced mission and vision, which are based on **academic integrity** and **indivisibility of scientific work and higher education** following European quality standards. The mission and vision are the basis for the operational and strategic planning of the activities and development of the Faculty as part of **the Development Strategy of the Faculty of Civil Engineering** for the period 2024 – 2028 (Annex I.1.1.1), as well as the Development Strategy of the Faculty of Civil Engineering for the period 2018 – 2022 (Annex I.1.1.2), which was valid until the end of 2022. The publicly announced mission, vision and Development Strategy of the Faculty in Croatian and English enable **transparency** and provide **information** to all interested entities and the general public. The Faculty achieves its mission through the education and training of academic staff, the promotion of the civil engineering profession and its role in sustainable development, acting in accordance with the principles of scientific and professional ethics, academic freedom, social responsibility and equal opportunities, and nurtures the expertise, creativity and responsibility of employees and students.

Based on the mission and vision, **the Quality Policy of the Faculty was defined**, which is based on: evaluating and improving the quality assurance system, encouraging stakeholder participation in the responsibility for quality, developing study programmes and lifelong learning programmes, encouraging excellence, interdisciplinarity and innovation, creating a stimulating environment while promoting gender equality and inclusion, accepting diversity and nurturing dignity, involvement of the Faculty in the development of the community and systematic monitoring of quality indicators of all areas of activity. **The quality assurance system** at the Faculty is based on the Act on Quality Assurance in Higher Education and Science (ZOK, Official Gazette 151/22) and ESG guidelines, and is integrated into the quality system of the University, taking into account the specifics of the Faculty and the civil engineering profession. According to the Statute of the Faculty (Annex I.1.1.3) and the Ordinance on the Quality Assurance and Improvement System of the Faculty (Annex I.1.1.4), the permanent body in charge of organizing, coordinating and implementing quality

assurance procedures at the Faculty is the Quality Assurance and Improvement Committee (hereinafter referred to as the OUK Committee), composed of representatives of the Board, organisational units and professional services of the Faculty, students of various levels of study and representatives of external stakeholders.

The mission clearly defines the specific role of the higher education institution in performing higher education, scientific, and professional activities, and in contribution to the development of modern society. The mission positions the higher education institution in a domestic and international context, guides the development of the content of study and education programmes, and all activities of the higher education institution.

The Faculty provides undergraduate, graduate and postgraduate education in the field **of civil engineering** and **basic technical sciences, based on its scientific research and professional work**. Scientific research and professional work of the Faculty, which integrate intersectoral, interdisciplinary and international cooperation, are part of a programme of strategic interest for the region in which it operates, and for the Republic of Croatia as a whole. Through educational and scientific research activities, the Faculty actively cooperates with academic and economic partners in the country and abroad, thus opening the possibility of mobility of its students and teachers, rational use of human and material resources, development of multidisciplinary scientific and teaching activities, and supervision and constant growth of the quality, competitiveness and international competitiveness of teaching, scientific and professional work. In accordance with the mission, the Faculty carries out 5 study programmes and 4 lifelong learning programmes. During the evaluation period (2019 – 2023) it implemented 61 scientific and 258 professional projects, has active partnerships with over 50 scientific institutions and 25 professional bases, and actively participates in the public life of the city, region, country and globally.

The Statute of the Faculty (Annex I.1.1.3) defines the mission of the Faculty, and the newly adopted, up-to-date Faculty Development Strategy (Annex I.1.1.1) based on qualitative and quantitative indicators and the Regulation on Programme Financing of Public Higher Education Institutions and Public Scientific Institutes in the Republic of Croatia (Official Gazette 78/23) represents a fundamental strategic document based on mission and vision and points out key development areas, measurable performance indicators and planned activities aimed at achieving the set goals.

Representatives of various stakeholder groups participate in the development and definition of the mission of the higher education institution.

The Faculty continuously develops and revises its mission in accordance with the development of scientific, professional and social needs, actively involving various groups of stakeholders. The process of revising the mission and vision is an integral part of the development of the new Strategy, and it was with the aim of drafting the Faculty Development Strategy for the period 2024 – 2028 (Annex I.1.1.1), and it was started through the initiative of the Faculty Management, the inclusion of members of the OUK Board, the extended board (includes heads of organisational units) and members of the Faculty Council, which includes all scientific and teaching staff, student representatives (10%), as well as representatives of associates, teachers and professional services. The Science Advisory Board and the Community and Economy Cooperation Committee, which bring together representatives from the community and the economy and serve as a key link with industry and the real economy, also participated in the adoption of the strategic guidelines and the revision of the mission. The thematic session of the Faculty Council (Annex I.1.2.1), regular meetings of organisational units and extended board meetings enabled all employees to present proposals and comments, which ensures a participatory approach and the involvement of teaching and non-teaching staff. Proposals for changes to the mission, vision and development strategy were agreed upon at the level of the Management, and the final version of the Faculty's mission was approved by the Faculty Council (the decision of the Faculty Council is in Annex I.1.2.2).

The mission statement is the starting point for the process of strategic planning and setting the strategic goals.

Based on the mission of the Faculty, which is the basis for strategic planning and goal setting, and the Development Strategy of the University of Rijeka for the period 2021 – 2025 (Annex I.1.3.1), the Faculty Development Strategy (Annex I.1.1.1) was drafted, which includes four key areas: **scientific research** (aimed at raising scientific excellence and strengthening research infrastructure), **learning and teaching** (aimed at increasing the relevance, quality and efficiency of studying), **knowledge transfer and cooperation with the economy** (aimed at developing collaborative projects, improving practical teaching and establishing links with the professional community) and **social responsibility** (aimed at contributing to the development of the community and recognizing regional identity). In the strategic planning process, through the committees and the Faculty Council that participate in the development of the Development Strategy, representatives of scientific-teaching and administrative staff, students, as well as external partners and associates from the economic sector are involved, which ensures the alignment of strategic goals with the needs of the academic and wider community. Strategic goals are defined in accordance with the mission, and are focused on **strengthening the teaching and research capacities of** the Faculty. The Development Strategy contains selected goals from the Catalogue of Goals and Indicators prepared by the Ministry of Science and Education in 2023 for the purpose of defining the goals of future programme financing of higher education institutions. Institutional goals have also been set, and they involve strengthening research work as part **of competitive funding**, strengthening **professional competencies**, encouraging **a personalized approach to learning**, and **engagement in measures aimed at environmental protection**. With the aim of increasing the visibility and sustainability of scientific research, the Faculty has also adopted **the Scientific Research Strategy for the period 2021 – 2025.** (Annex I.1.3.2), aimed at developing key research areas, strengthening cooperation and internationalisation, fostering multidisciplinarity, innovation and open science.

The Development Strategy and the Scientific Research Strategy of the Faculty contain measurable performance indicators, as well as clearly defined implementation deadlines and responsible bodies. Regular weekly meetings of the Management Board enable **operational planning and timely decision-making**. Annual reports based on the Faculty Strategy (in Annex I.1.3.3, Annex I.1.3.4, Annex I.1.3.5, Annex I.1.3.6 and Annex I.1.3.7 given for 2019, 2020, 2021, 2022, and 2024, while in 2023, in the transitional period between the previous and current Faculty Development Strategy, the University Development Strategy was valid), the University Strategy (in Annex I.1.3.8, Annex I.1.3.9, for 2019, 2020, and in Annex I.1.3.10, Annex I.1.3.11, Annex I.1.3.12, Annex I.1.3.13, Annex I.1.3.14, Annex I.1.3.15, Annex I.1.3.16 and Annex I.1.3.17, according to qualitative and quantitative indicators for 2021, 2022, 2023 and 2024) and according to the Scientific Research Strategy (in Annex II.1.3.18, Annex I.1.3.19 and Annex I.1.3.20 data for 2021, 2022 and 2023) are in accordance with clear quantitative data on **the evaluation of goal achievement**.

I.2 The higher education institution defined the internal organisational structure and processes that are managed responsibly, efficiently and effectively, and the higher education institution's stakeholders are included in the decision-making processes.

The management of the higher education institution is based on the academic self-governance of higher education institutions and the autonomy of universities.

The Faculty is a constituent part of the University with legal personality, and operates in accordance with the principles **of academic self-government** and **institutional autonomy** according to the Act on Higher Education and Scientific Activity OG 119/2022 (ZVOZD, OG 119/2022), ensuring the active participation of the academic community in the management and the decision-making process. Academic self-government is achieved through the activities of working bodies that include representatives of teachers, researchers,

students, professional services and external stakeholders, which encourages inclusiveness, transparency and accountability in management. Within the University, the Faculty achieves institutional autonomy in key areas of activity, including the regulation of internal organisation, the establishment of educational, scientific, artistic and professional programmes, decision-making on the acceptance of projects and international cooperation, financial autonomy within the programme agreement and other forms of autonomy in accordance with the ZVOZD and the Statute of the University (Annex I.2.1.1).

At the same time, the Faculty participates in **the functional integration** of certain key areas important for the development of the University (defined in Article 11 of the University Statute, Annex I.2.1.1), such as strategic decisions related to scientific and academic excellence, enrolment policy, quality assurance, development of study programmes and digital tools, support for scientific projects and research infrastructure, improvement of student standards, internal audit system, information systems and joint activities in international cooperation and promotion of academic integrity.

The basis of Faculty management consists of the Faculty Statute (Annex I.1.1.3), the Ordinance on the Internal Organisation of the Faculty (Annex I.2.1.2) and legal acts that clearly define the roles, authority and mutual relations of administrative and academic bodies. The governing bodies of the Faculty are the Dean, who represents and stands for the Faculty, is its head and leader and is responsible for the legitimacy of the Faculty's work, and the Faculty Council, which has clearly defined authority and responsibilities defined in the Statute (Annex I.1.1.3), and authority defined by other general acts of the Faculty that are not within the competence of other bodies.

The Dean is assisted by the Vice-Deans (Vice-Dean for Education and Student Affairs, Vice-Dean for Science, Vice-Dean for Quality Assurance and Development, Vice-Dean for Business Affairs, and from 2024 the Vice-Dean for Projects and Collaboration). Meetings of the Dean's Board (which, in addition to the Dean, consists of the Vice-Deans and the Secretary) are held weekly, and meetings with the heads of organisational units and sessions of the Faculty Council are held at least once a month. **The Faculty Council** is an expert council of the Faculty consisting of: all teachers elected to the scientific-teaching title with at least 50% of working hours at the Faculty (11 full professors, 18 associate professors, 13 assistant professors), 1 elected representative and deputy representative of teachers in teaching positions, and assistants in assistant academic titles, 1 elected representative and deputy of other employees and 5 representatives and deputy representatives of students in the share of 10% of Council members (according to Statute of the Faculty in Annex I.1.1.3), and operates in accordance with the Rules of Procedure of the Faculty Council (Annex I.2.1.2).

The autonomy of universities includes the regulation of internal organisation and management in accordance with the Act on Higher Education and Scientific Activity, its by-laws and regulations; identification of educational, scientific, artistic and professional programmes; deciding on the acceptance of projects and international cooperation; financial autonomy under a programme agreement; and responsibility towards the social community.

The administrative and academic processes of the Faculty are based on the provisions of the Law (ZVOZD, Official Gazette 119/2022), as well as on bylaws, and are additionally regulated by the Statute of the Faculty and the Ordinance on the Internal Organisation and Organisation of Jobs of the Faculty (Annex I.2.1.2). The Faculty has autonomy in the creation and implementation of university undergraduate, graduate and postgraduate study programmes in accordance with the needs of the profession, the labour market and educational policies. It also independently applies for and implements scientific, professional and development projects and actively participates in national and international research and educational initiatives. The Faculty develops and implements international cooperation, including student and staff mobility and partnerships with foreign institutions and organisations covered through the Mobility Office.

The Faculty achieves financial autonomy through a programme agreement concluded at the level of the University of Rijeka with the Ministry of Science, Education and Youth, as well as through its own revenues generated through projects, professional services and cooperation with the economy. The management of funds is carried out in a transparent manner, in accordance with the applicable regulations and principles **of accountable financial operations**, and data on financial operations are regularly published on the website of the Faculty. The Faculty recognizes its responsibility towards the community and acts in accordance with the principles of sustainable development, regional inclusion, knowledge transfer and public availability of knowledge, while continuously contributing to the development of the profession and society as a whole.

The higher education institution, using a quality assurance system and available information systems, collects, processes, analyses the data and generates reports using various methods. Based on the results of the analyses, further actions and improvements are planned using an approach based on risk and opportunities. The management and the competent authorities make informed decisions. Students and other stakeholders are involved in these processes.

The Faculty systematically collects, analyses and uses data for the purpose of improving the quality of teaching, scientific and management processes. Through the work of functional units of the quality assurance and improvement system, which consists of the OUK Committee and the Student and Teacher Support Offices and the use of information systems (ISVU, ISVURI, ISPIK, Mozvag, CroRIS, Office365 MS SharePoint, Provis, ISSP, ISEVO, NISpVU), the Faculty collects data on study programmes, teaching performance, teaching and workload, employees, quality of teaching, scientific and professional work, administrative obligations, professional development, students, progress in studies, financial operations, media visibility, student pass rate, scientific activities, mobility, student and employee satisfaction and other relevant aspects.

On the basis of the collected and processed data, periodic **reports on the quality of teaching and study programmes** are prepared (reports on the academic success - Annex I.2.3.1, reports on the satisfaction of graduated students - Annex I.2.3.2, teacher satisfaction - Annex I.2.3.3, satisfaction with the work of the laboratory - Annex I.2.3.4, annual reports on the work of the Office for Student and Teacher Support - Annex I.2.3.5, trainings for the improvement of teaching competencies, the work of doctoral studies - Annex I.2.3.6, the work of the Library - Annex I.2.3.7, and reports on the work of the OUK Committee), **scientific results** (reports according to the Strategy of Scientific Research, annual reports on scientific production and work on scientific projects), **financial operations** (financial reports) and **institutional development** (reports according to the Faculty Development Strategy and the University Development Strategy). These reports represent the basis for monitoring performance indicators in each segment of work and making strategic and operational decisions at the level of the Management, the Faculty Council and the University.

The faculty adopts an approach based on recognizing its strengths and weaknesses and detecting opportunities/opportunities and risks/threats, whereby priority areas for improvement are identified through systematic analyses (SWOT analysis is a basic part of the Faculty Development Strategy, and if necessary, it is also carried out when deciding on the development directions of certain activities of the Faculty). Specific measures for the improvement of the teaching process, organisation of studies, research work and administrative support are defined, with clearly defined deadlines and responsible persons.

Students actively participate in the processes of quality assurance and improvement – directly through regular surveys, and indirectly through a representative role in the Faculty Council (students make up 10% of the Faculty Council members), the Committee for Quality Assurance and Improvement (3 representatives, 1 representative and a deputy of each level of study), the Student Support Office (representatives and deputies of each academic year of all studies), Office for Support to Underrepresented and Vulnerable Student Groups and Working Groups in Charge of Changes and Development of New Study Programmes (example of a working group). **External stakeholders**, such as alumni and representatives from the

community and the economy, are involved through advisory bodies primarily through the Committee for Cooperation with the Economy and the Advisory Board for Science, and are also represented in the OUK Committee, Career Office and working groups in charge of modifying and developing new study programmes. Through analyses of labour market needs (an example of surveying employers on the needs for lifelong learning - Annex I.2.3.8), the Faculty ensures that stakeholders from the economy contribute to the focus of the planned measures on the real needs of the profession and the society.

The higher education institution regularly and transparently informs stakeholders on strategy implementation, operations, and implementation of programme agreements, where applicable.

The Faculty regularly reports on the implementation of the Strategy and operations. Once a year, the Dean of the Faculty submits to the Faculty Council a report on the implementation of the **Development Strategy of the Faculty of Civil Engineering** (in Annex I.1.3.3, Annex I.1.3.4, Annex I.1.3.5, Annex I.1.3.6 and Annex I.1.3.7 given for 2019, 2020, 2021, 2022, and 2024, while in 2023, in the transitional period between the previous and current Faculty Development Strategy, the University Development Strategy was valid), and a report on the implementation of the Strategy of the University of Rijeka, which is related to the programme agreements, and which includes both quantitative and qualitative indicators of the achievement of strategic objectives (in Annex I.1.3.8, Annex I.1.3.9, for 2019, 2020, and in Annex I.1.3.10, Annex I.1.3.11, Annex I.1.3.12, Annex I.1.3.13, Annex I.1.3.14, Annex I.1.3.15, Annex I.1.3.16 and Annex I.1.3.17, according to qualitative and quantitative indicators for 2021, 2022, 2023 and 2024). Reports according to the Scientific Research Strategy are provided in Annex II.1.3.18, Annex I.1.3.19 and Annex I.1.3.20 respectively for 2021, 2022 and 2023.

The Annual Report on the Work of the Faculty is submitted once a year to the Faculty Council at the Formal Session in celebration of the Faculty Day, and the monthly reports are submitted at regular sessions of the Faculty Council and are publicly available. In addition, an overview of valuable and distinguished achievements is regularly published in printed and electronic form within the Proceedings of the Faculty of Civil Engineering (the latest edition of the Proceedings), which contains the Dean's introductory speech and **the Faculty Yearbook** with an overview of the activities carried out in the previous year, including information on awarded students, final and graduate theses, active projects, scientific and professional conferences, and cooperation with the economy and the local community. The **financial plan and reports on financial operations**, and from 2024 onwards, information on the spending of funds are regularly drafted, discussed and adopted at the sessions of the Faculty Council and publicly published. The reports are used as a basis for strategic planning, self-evaluation and steering future actions of the Faculty in accordance with the principles of accountability to the academic and social community.

The higher education institution manages its financial resources transparently, efficiently, purposefully, and sustainably.

The Faculty manages finances and other resources transparently and responsibly, in accordance with regulations and principles of public accountability. All key documents are available on the Faculty's website: general acts, financial statements, information on public procurement, and invitations and minutes of the Faculty Council sessions. All procedures are carried out in accordance with ZVOZD NN 119/2022, and regularly conducted internal and external audits further ensure compliance with applicable laws and regulations and the efficiency of resource use (examples are given in Annex I.2.5.1 and Annex I.2.5.2). The financial operations of the Faculty are based on careful planning, monitoring of costs and rational use of funds. **Transparency** is manifested in the regular preparation and publication of financial reports and information on the spending of funds. The Faculty monitors the financial execution of funds obtained through programme agreements with the University and the competent ministry, as well as through its own revenues generated by projects, cooperation with the economy and professional services. The funds are directed **towards priority areas**, such as strengthening teaching and scientific infrastructure, developing

digitalisation, encouraging student activities and improving working conditions. **Sustainability** of financial operations is achieved through long-term planning, responsible spending of funds and the promotion of initiatives that contribute to cost reduction and environmental protection. In addition to the existing photovoltaic power plant with a capacity of 21 kW, the capacity expansion to 99 kW is planned, the project documentation for which has been prepared. Employees are encouraged to be environmentally aware and rationally consume energy through responsible behaviour (e-mails to employees, Senate decision). The Faculty conducts all public procurement procedures in accordance with applicable regulations, which ensures fair market competition, responsible management of public funds and the maximum value for the money spent. A **public procurement plan is regularly prepared**, and in justified situations, it undergoes amendment or rebalance. All information about the public procurement procedure, as well as authorized representatives of the Faculty are available on the website.

I.3 The higher education institution collects, analyses and uses data relevant for the effective management of all activities, and publishes the information about its work.

Using a quality assurance system and available information systems, the higher education institution collects data (on employees, students, programmes, etc.) using various methods, analyses them and uses relevant information to monitor trends, report on its activities, plan its follow-up activities and make informed decisions. Students and other stakeholders are involved in these processes.

The Faculty ensures the systematic collection, analysis and use of information relevant to the effective management of all areas of activity. The quality assurance and improvement system is based on national regulations, ESG standards and the Strategy of the University of Rijeka, and is additionally regulated by internal acts of the Faculty, including the Ordinance on the Quality Assurance and Improvement System and the Faculty Quality Manual.

Data for reporting are collected through various information and administrative systems and by conducting surveys at the University and Faculty level. The information and administrative systems used are: ISVU, MOZVAG, ISSP, ISeVO, ISPIK, CroRIS, DABAR, MS Sharepoint, PROVIS, SCEDULY, LABIS, e-Pension, e-Health, e-Tax, Centralized payroll calculation system and other. Significant feedback, both qualitative and quantitative, is obtained by analysing the results of the implemented quality assurance procedures: student evaluation of teachers' work in courses (examples in Annex I.3.1.1, and summary annual reports in Annex I.3.1.2), satisfaction of graduated students (examples - Annex I.3.1.3), surveys of students withdrawing from studies (example - Annex I.3.1.4), a survey on the satisfaction of teachers (example - Annex I.3.1.5), professional services staff (example - Annex I.3.1.6), laboratory technicians (example - Annex I.3.1.7), a survey on the work of doctoral students (example - Annex I.3.1.8) and their mentors (example - Annex I.3.1.9), the work of associates (example - Annex I.3.1.10) and others. The collected data include information on employees, students, study programmes, teaching and research activities, organisational processes, professional and administrative services and infrastructure.

The analysis of the results of the surveys is carried out by the OUK Committee and the Doctoral Study Board, which advise the Management Board on basis thereof. Reports on the conclusions of the analyses are submitted at least once a year to the Dean and the Faculty Council and are used as a basis for strategic and operational planning, decision-making and development of the Work Plan of the OUK Committee and action plans (an example of the one after obtaining the license is in Annex I.3.1.11). The Faculty, in cooperation with the Centre for Quality Assurance of the University, uses indicators (pass rate, mobility, research results, student satisfaction) to monitor trends and make decisions. Students and external stakeholders are involved through surveys and collaborating bodies, which enables targeted improvements in studies, science, infrastructure and support.

The Faculty's SOC is regularly evaluated through internal audit which is carried out every few years by an independent committee of the University (the documentation of the internal audit from 2019 is provided in Annex I.3.1.12, and the internal audit documentation from 2023 in Annex I.3.1.13), and re-accreditation (documentation from the external audit in 2018 and the process of obtaining the license in 2023 is provided in Annex I.3.1.14). Based on the recommendations of expert committees in these evaluations, the Faculty plans activities to improve quality in such elements in which the desired or expected results have not been achieved. The Management Board, employee representatives participating in the work of the OUK and the Faculty Council, student representatives and representatives of external stakeholders are involved in the development of action plans. After the adoption of the action plans, the implementation of the activities is reported to all stakeholders within the framework of annual reports.

For the purposes of this self-evaluation, information about the Faculty is collected in order to carry out the re-accreditation of the Faculty, which includes basic indicators on students, teachers and the Faculty facilities (Table 1a, 1b, 1c and 1d).

The higher education institution uses information systems to monitor indicators on compliance with the legal requirements for the pursuit of higher education and scientific or artistic activities, where applicable.

The Faculty uses several national and institutional information systems to monitor the fulfilment of legal requirements for performing activities in higher education and scientific research. For the purposes **of teaching and student records,** the Information System of Higher Education Institutions (ISVU) is used, which enables the unification of data on study programmes, teachers, students, enrolments, grades, study statuses, staff and other relevant segments. Faculty services, teachers and students use different ISVU modules, adapted according to roles and competencies (e.g. Studomat, Study and Students, Exams, Teacher Portal, Personnel Module, Data Warehouse). ISVU has been upgraded with the ISVURI system, which is used to enter the percentage points earned by students in each exam period and is part of the wider information framework of the University through which digital enrolment in the new academic year is carried out, as well as the issuance of digital and preparation of printed diplomas and diploma supplements. The systems are integrated with several external applications that enable monitoring, reporting and analysis of indicators related to legal requirements and strategic goals of higher education institutions. To create the timetable Sceduly is used, and from the academic year 2024/25 onwards, also the newly developed Provis system, which enables the digitalisation of the implementation of the teaching process and the optimisation of teachers' administrative tasks. Employees use the Office365 system and MS SharePoint for internal document exchange and information collection, and Merlin for e-learning system to establish and maintain e-courses. Turnitin tool is used to verify the authenticity of student papers. To monitor **scientific activities**, the Faculty uses the information system of science of the Republic of Croatia – CroRIS, which integrates and interconnects data on scientists, publications, projects, institutions, patents, equipment and other elements of scientific work. The Gradri repository within the national repository Dabar is used to store research data, scientific, professional and student evaluation papers.

The higher education institution has a strategy for the digital transformation of education that is integrated into the overall strategies for institutional development and quality enhancement.

The Faculty sees digital transformation as **an integral part of institutional development and quality assurance systems**. The digital transformation of education is integrated into the Faculty Development Strategy (Annex I.1.1.1) and aligned with the objectives of the University Strategy for the period 2021 – 2025 (Annex I.1.3.1), with an emphasis on the digitalisation of teaching processes, infrastructure improvement, availability of digital tools, and digital management of business and administrative processes.

The Faculty is continuously developing digital support for teaching and study programmes through the improvement of e-learning, digital tools for communication and evaluation, digitalisation of student enrolment and the integration of e-platforms for student and teaching records. It also encourages the education of teachers and staff to use digital technologies in teaching, monitoring and evaluating students. As part of a wider digital transformation, the Faculty actively uses information systems such as ISVU, electronic registry office and digital archive DIAR, e-HR records and SharePoint system for document management and implementation of meetings of the Faculty Council and Committees. Digital tools are used in processes such as recruitment, working time records, vacation tracking, creating official addresses and AAI identities, and communicating with external partners and students. When hiring new employees or hiring external associates, a special AAI identity is created with accompanying passwords and e-mail addresses, which enables employees to access digital services of the Faculty and the University of Rijeka (e.g. "ticketing" system for IT or technical support services, UNIRI portfolio, Sharepoint of the Faculty, etc.).

Digital transformation also includes **security aspects**, especially in terms of personal data protection and ensuring safe work in the digital environment, in accordance with the Ordinance on the Processing and Protection of Personal Data of the Faculty. All information on student performance is published in summary or using the JMBAG student identification number (example of publication of test results - Annex I.3.3.1). An article on data processing has been implemented in the study contract that students sign upon enrolment (example - Annex I.3.3.2), and each employee signs a confidentiality statement when concluding an employment contract (example - Annex I.3.3.3).

The higher education institution keeps electronic records and ensures access to and exchange of data in accordance with the national legislative framework.

The Faculty keeps all key records electronically, in accordance with the applicable legislative framework and regulations governing the management of personal data, official records and information systems in higher education. **Records of students, teachers, study programmes, enrolments, examinations and other segments of educational activity** are kept through the national Information System of Higher Education Institutions (ISVU). ISVU enables structured data management and transparent insight for different categories of users – students, teachers, administrative staff and Faculty administration – through appropriate user modules (e.g. Studomat, Teacher Portal, Human Resources Module, Data Warehouse). The Faculty also uses other systems for electronic management and data exchange, including the e-HR system for keeping records of employees, a system for electronic minutes of meetings, a SharePoint platform for collaboration and document storage, and internal applications for monitoring vacations, working hours and personnel procedures.

Access to data within these systems is defined by the levels of authority and user rights, which ensures data protection in accordance with the Personal Data Protection Act and the internal acts of the Faculty and the University. The systems are aligned with the obligations from the ZVOZD, and the exchange of data with external institutions (e.g. Ministry of Education, Education and Sports, ASHE) takes place according to clearly defined protocols. Electronic record-keeping and ensuring access to data contributes to the efficiency of administrative processes, transparency of work and timely decision-making at all levels of Faculty management.

The higher education institution has prescribed measures to use the information systems and ensure information security, and implements them consistently.

The Faculty uses a number of information systems in its daily work and has measures and procedures for their use and ensuring information security. Information security is regulated by the internal acts of the Faculty, as well as the regulations and technical instructions of the University of Rijeka, which are harmonized with the national legislative framework, including the Personal Data Protection Act and the

Information Security Act. All employees and associates of the Faculty have clearly defined levels of **access to information systems**, depending on their role and authority, which ensures the principle of least privilege and the protection of data integrity. With each hire, the opening **of official electronic identities** (AAI@EduHr) is ensured, access to appropriate systems (ISVU, e-HR system, SharePoint, etc.) is assigned, and users are introduced to the rules of use, password storage and responsible data management.

The Faculty, in cooperation with the University Information Centre (SIC), implements measures for technical and organisational security, including regular data backups, access logs, network and system access control, antivirus protection, and employee education on the security aspects of digital business. Special attention is paid to the secure handling of personal data, classified documents and sensitive information, and all systems are part of the integrated information environment of the University. In cooperation with the professional services of the University (through the SIC), the Faculty continuously monitors the development of security threats and harmonizes its measures with the recommendations of national and European authorities. In addition, through regular internal and external audits, the effectiveness of existing security policies and their application in practice are verified.

In accordance with the Act on the Right of Access to Information, the Faculty has an appointed a public information officer (decision in Annex I.3.5.1) and ensures the exercise of right of access to information guaranteed by the Constitution of the Republic of Croatia (an example of a report for 2024 is in Annex I.3.5.2), as well as the reuse of information by natural and legal persons through the openness and publicity of the activities of public authorities. The Catalogue of Information has been publicly published, and information and documents that are publicly available in electronic form can be accessed directly through the Faculty website, without sending a special request. For all other information and documents, the user of the right of access to information shall exercise this right by submitting an oral or written request, all in accordance with the Ordinance on Access to Information held by the bodies of the Faculty of Civil Engineering in Rijeka (Annex I.3.5.3).

Clear, accurate, objective, and valid information on study programmes and on the work of a higher education institution is publicly available and easily accessible, in Croatian and in one of the world's languages.

Accurate and up-to-date information on all aspects of the Faculty's work, and especially on study programmes, is publicly available in Croatian and partly in English, which ensures accessibility to domestic and international users. Official information is published on the Faculty's website, where all relevant documents are available: descriptions of study programmes and curricula (university undergraduate in Annex I.3.6.1, university graduate in Annex I.3.6.2, professional undergraduate in Annex I.3.6.3, professional graduate in Annex I.3.6.4 and doctoral studies in Annex I.3.6.5), information on enrolments, study conditions, enrolment costs and tuition fees, exams, mobility, final and diploma theses and employment opportunities. Calls for enrolment are published regularly (an example is in Annex I.3.6.6), as well as decisions on enrolment quotas and enrolment criteria for open study programmes. In addition to basic data, the Faculty also publishes documents related to lifelong learning programmes, quality assurance system, business cooperation, laboratories, strategic documents and regulations. Special attention was paid to the clarity and transparency of information relating to the rights and obligations of students, the course of study and student support. The website is regularly updated, and the content is structured in such a way that it allows users to navigate easily and logically, for example by using separate tabs with information for future students or alumni of the Faculty. The website is mostly in accordance with the Accessibility Act, with the implementation of a new CMS platform and the *integrated One Click Accessibility* plugin for adaptation to people with disabilities.

Key information about the Faculty, strategic documents, study programmes, scientific projects, mobility opportunities and lifelong learning programmes offered in English is available, and additional materials are prepared in line with the needs of foreign students and partners, in particular through mobility programmes

and scientific projects. Through the publication of publicly available and up-to-date information the Faculty ensures the transparency of its activities and provides current and future students, employees, partners and the public with reliable information about its work. The Web Impressum defines the responsibilities for editing and maintaining parts of the website, which ensures that publicly available information is regularly updated, accurate and relevant.

The higher education institution is obligated to inform the public on admission criteria, enrolment quotas, study and educational programmes, learning outcomes and qualifications, forms of support available to students, procedures applied in teaching, learning, and assessment, pass rates, learning opportunities available to students, as well as information on the employment of students who have recently graduated.

The Faculty actively informs the interested public about all important aspects of studying, in accordance with the principles of transparency, accessibility and timely information. All information is available through **the official website of the Faculty** and **social networks** (LinkedIn, Instagram, Facebook, TikTok), and through public presentations and events such as Open Doors Day (example programme in Annex V.3.7.1).

On the website of the Faculty, the valid enrolment criteria, enrolment quotas, conditions for transfer and enrolment in higher years of study, as well as valid regulations and instructions are published. Detailed descriptions of all study programmes and lifelong learning programmes are available, including learning outcomes, qualifications acquired, competencies and post-graduation employment opportunities. Every year in April, new competitions for enrolment in undergraduate and graduate level study programmes are announced, and in May or June for enrolment in doctoral studies. The Faculty regularly publishes information on the organisation of classes, teaching methods, forms of student evaluation and the scoring system, as well as on opportunities for additional learning and development – including field work, professional practice, call for participation in projects, mobility, and student associations and initiatives. Students are provided with information on forms of support, which include counselling (Student Support Office, teacher-advisor programme, University Counseling Centre (SSC)), mentoring (student-mentor programme), support for students with disabilities (Office for Support to Vulnerable and Underrepresented Student Groups), library (repository, catalog of library materials) and IT infrastructure (a list of computer software packages is available on the website) and administrative support through the student service (working hours and contacts of the Office of Student Affairs). The faculty also publishes data on enrolment and graduation, and information on the employment of graduates is collected through alumni surveys and contacts with employers. Various data and indicators related to studying, such as passing rates and dropout rates, are regularly collected and analysed through the quality management system, and are presented to the members of the Faculty Council at least once a year. All minutes of the Faculty Council meetings are available to the public via the website. This provides prospective students, their parents, employers, and the general public with the reliable information they need to make informed decisions about education and cooperation with the Faculty. The Faculty website has a built-in possibility of a virtual walk through the Faculty building, which is currently being supplemented with mobile access points.

With the aim of successfully informing and faster dissemination of important and interesting information, a **Working Group for the Promotion of Studies** has been established at the Faculty, whose branch manages the Faculty's social networks. In the past few years, between **200 and 450 posts have been created and published per year**, profiles are followed by almost 2000 followers, and posts reach almost 30,000 people, which strongly contributes to the popularisation of the Faculty's activities, attracting talented students and networking (report on work on social networks for 2022, Annex I.3.7.2 and for 2023, Annex I.3.7.3). Since 2019, the working group has participated in **8 education fairs**, held over **80 presentations of the Faculty's undergraduate studies** in secondary schools in the region, and continuously worked on the modernisation of the Faculty's promotional leaflets, and the organisation **of almost 70 popular activities** for kindergarten students, primary and secondary school students with the aim of attracting future students (Annex I.3.7.4 -

reports on the work of the Working Group). The Faculty teacher is the deputy head of the Centre for the Popularisation and Promotion of Science of the University (Annex I.3.7.5), and numerous employees participate in popular science events such as the River of Technology, the Science Festival, the STEM Picnic, the Researchers' Night, the Science Exhibition and many other actions. In accordance with the action plan, based on the recommendations from the previous cycle of re-accreditation of the Faculty, **a communication plan** was developed (Annex I.3.7.6).

I.4 The higher education institution supports ethics and transparency, academic integrity and freedom, and prevents all types of unethical behaviour, intolerance, and discrimination.

The higher education institution continuously promotes, supports and ensures ethical and transparent work, academic integrity and freedom among all stakeholders (in theory and practice) throughout the whole organisation, thus demonstrating its social responsibility.

The Faculty strongly promotes high **standards of ethics**, **transparency of work** and **academic integrity**, recognizing these values as fundamental to its operations and development. Through clear and accessible mechanisms, the Faculty actively supports freedom of expression, scientific and teaching autonomy, and encourages **responsible academic behaviour of** all stakeholders – teaching and non-teaching staff, students and external associates. The University Code of Ethics (Annex I.4.1.1), the Ordinance on the Disciplinary Liability of University Employees (Annex I.4.1.2) and the Ordinance on the Disciplinary Liability of University Students (Annex I.4.1.3) are key documents for fostering ethical, transparent and responsible behaviour at the University of Rijeka. The Guidelines on Gender Inclusive Communication (Annex I.4.1.4), the Gender Equality Plan (Annex I.4.1.5) and the Guidelines for Quality Assurance and Improvement: Diversity and Inclusion (Annex I.4.1.6) ensure the freedom of all participants in the academic process, promote diversity and the inclusive functioning of the Faculty and the University. These documents are integrated into everyday activities, and their application is regularly evaluated and supplemented in accordance with changes in the academic and social environment.

The Ethics Committee **is active at the Faculty,** which considers reports of unethical behaviour and provides advisory support in matters of an ethical nature (Rules of Procedure in Annex I.4.1.7). In addition, students and staff have access to counselling and educational activities that help them understand and apply the principles of academic integrity in specific situations. Special emphasis is placed on the prevention of plagiarism, data manipulation and other forms of academic dishonesty, with the use of modern digital tools for checking the authenticity of papers (Turnitin tool), for the purpose of which a statement for student papers was created and published (Annex I.4.1.8). In 2021, the **Committee for Research Ethics was established at the Faculty** (the decision on establishment is in Annex I.4.1.9), which considers and approves research projects in accordance with ethical principles, ensuring that all forms of scientific work are carried out with respect for human rights, the well-being of participants and academic integrity (opinions of the committee - Annex I.4.1.10). The Faculty fosters open dialogue and respect, creating an inclusive academic environment and promotes social responsibility, sustainability, and integrity through education, research, and community collaboration.

The work of employees of the higher education institution, its students and external stakeholders, is based on ethical standards in higher education.

At the Faculty, teaching and non-teaching staff, students, external associates and partners act in accordance with the principles of academic ethics, responsibility and professionalism, which actively contributes to building trust within the academic community and the wider social environment. **Faculty employees and associates** consistently adhere to the rules of academic integrity, including objective evaluation, transparency in scientific research, and respect for intellectual property. In scientific and teaching work,

ethical standards are regularly applied through the review process, mentoring students, and the creation and publication of professional and scientific papers. **From the first day of study, students are acquainted with the obligation to adhere to the principles of academic integrity, including the prohibition of plagiarism, dishonest behaviour during exams and data manipulation,** through a brochure and during the welcome speech of the Management Board (presentation in Annex I.4.2.1). During their studies, through various forms of teaching, they are additionally educated about the importance of ethical behaviour in the academic and future professional context. In order to further develop a sense of responsibility towards their own work, in the courses requiring project assignments preparation, the students enclose a signed statement for independent work (Annex I.4.1.8), which guarantees that they have made the work independently without unauthorized takeover of someone else's work. In addition, tools for checking the authenticity of papers are used in the preparation of final and graduate theses (Turnitin tool, University decision - Annex I.4.2.2).

In the event of a violation of ethical principles, proceedings are conducted in accordance with the Ordinance on Disciplinary Liability of Students (Annex I.4.1.3) and Employees (Annex I.4.1.2) of the University, ensuring fairness and protection of the rights of all involved. The activities of employees and students of the Faculty outside the Faculty must be in accordance with professional obligations and must not damage the reputation of the Faculty. **External stakeholders** (industry collaborators, committee and committee members, or project partners) are invited to collaborate in accordance with ethical standards that are aligned with the principles of academia. Through projects, professional practice and collaboration on final and graduate theses, they are also involved in the promotion of responsible and ethically based professional behaviour. Academic ethics is thus not perceived as a formal framework, but as an everyday practice that shapes the identity of the Faculty in the scientific, educational and professional community.

The higher education institution effectively takes measures to prevent unethical behaviour, intolerance and discrimination.

The Faculty systematically and proactively implements measures aimed at preventing unethical behaviour, intolerance and any form of discrimination, thus ensuring a safe, inclusive and stimulating academic environment for all members of the community. The Faculty operates in accordance with the University Code of Ethics (Annex I.4.1.1), the Ordinance on Disciplinary Liability of University Employees (Annex I.4.1.2), the Ordinance on Disciplinary Liability of University Students (Annex I.4.1.3) and the Rules of Procedure of the Ethics Committee (Annex I.4.1.7). **The Ethics Committee** of the Faculty is available to all stakeholders for advice and reporting of possible irregularities, and all reported cases are resolved in a timely manner, professionally and with the protection of the dignity of all involved. The faculty also has **a Disciplinary Committee for Students**, **a Disciplinary Committee for Teachers** and an **Appeals Disciplinary Committee** (the composition of the committees is available here).

Special attention is paid to prevention through educational activities and informing students and employees about the rights, obligations and possibilities of action in case of observed unacceptable behaviour (measures for ethics adopted by the OUK Committee are in Annex I.4.3.1). During classes and through faculty communication channels, the principles of non-violence, equality and mutual respect are regularly emphasised. **The Student Ombudsman of the University of Rijeka** is in charge of informing students about their rights and obligations and representing students in the event of a violation of their rights.

In accordance with the Act on the Protection of Whistleblowers, Official Gazette 46/22, the Faculty has also adopted the Ordinance on the Procedure for Internal Reporting of Irregularities and the Appointment of a Confidential Person (Annex I.4.3.2), and a confidential person and their deputy in the procedure for internal reporting of irregularities **have been appointed**. **An authorized person for the protection of the dignity of workers** has also been appointed (the decision is in Annex I.4.3.3).

The Faculty fosters a culture of dialogue and mutual respect, and discrimination on any grounds (gender, age, ethnicity, religious belief, health status, sexual orientation, etc.) is strictly prohibited. Equal opportunities for all students and employees are also taken into account, including the accessibility of infrastructure (a trained inclined wheelchair ramp for people with reduced mobility, Annex I.4.3.4) and the adaptation of teaching content to students with disabilities. The website is mostly in accordance with the Accessibility Act, with the implementation of a new CMS platform and the *integrated One Click Accessibility* plugin for adaptation to people with disabilities. To this end, the Guidelines on Gender-Inclusive Communication, the University of Rijeka — Safe Place, No Sexual Harassment – Guidelines for Prevention and Action (Annex I.4.1.4), the Gender Equality Plan (Annex I.4.1.5) and the Guidelines for Quality Assurance and Improvement: Diversity and Inclusion (Annex I.4.1.6), have been integrated into the activities of the faculty and it is continuously active **Support Office for Underrepresented and Vulnerable Student Groups**. The University Counselling Centre operates in the Faculty building, available to students for psychological counselling, assistance in studying with support and career management. The Faculty regularly reviews its own practices and improves them in accordance with the University's policies and national legislation, thus demonstrating a clear commitment to preserving the dignity and rights of all stakeholders and its social responsibility.

The higher education institution conducts activities related to the sanctioning of unethical behaviour, intolerance and discrimination, ensuring a fair and unbiased implementation of procedures.

The Faculty has clearly defined mechanisms for dealing with cases of unethical behaviour, intolerance and discrimination, which ensures fairness, impartiality and transparency at all stages of the procedure. All reported cases of unethical conduct are considered within **the Ethics Committee** of the Faculty or the competent authorities according to the nature of the report (e.g. **Disciplinary Committee for Students or Teachers**). The procedures were conducted in accordance with the applicable regulations of the Faculty and the University, as well as ZVOZD NN 119/2022, with strict adherence to the principles of impartiality, confidentiality and protection of the rights of all parties involved. The Faculty ensures that the persons who initiate the report, as well as those to whom the report relates, have the right to a fair hearing, access to documentation, and the submission of comments and appeals within the stipulated deadlines. This strengthens trust in the system, but also sends a clear message that any violation of ethical and legal norms is taken seriously. **The Disciplinary Committee of the** Faculty, on the basis of a suspicion of a violation of the Code of Ethics of the University or the Ordinance on Disciplinary Responsibility of Students of the University from the academic year 2010. 2019/2020 to the academic year 2019/2020 to 2023/2024, 13 procedures were carried out against a total of 46 students (summary data are in Annex I.4.4.1, and an example of the entire procedure is available in Annex I.4.4.2). Depending on the severity of the violation, various measures are imposed, from warnings and warnings, through a ban form taking knowledge tests for a certain duration, to expulsion from studies. In cases of serious violations, the Faculty cooperates with the competent judicial and administrative bodies. **The Appeals Disciplinary Committee of** the Faculty, which allows appeals against the decision of the Disciplinary Committees, has not had any reports so far. **The Disciplinary Committee for the employees of** the Faculty has so far had one report against the employees, based on the Ordinance on the Disciplinary Responsibility of the University Employees. **The Ethics Committee of** the Faculty received one report against employees, the solution of which is visible in Annex I.4.4.3. In addition to sanctioning, the Faculty is simultaneously working on education and prevention (the ethical measures taken are given in Annex I.4.4.4), which creates a balance between a repressive and proactive approach to the protection of academic integrity and human dignity. In this way, the institutional culture of responsibility, fairness and mutual respect is strengthened.

The system of resolving conflicts and irregularities is defined and it functions at all levels of the higher education institution.

At the level of the Faculty, a system of competencies for recognizing and resolving conflicts, irregularities and reported forms of unethical behaviour is clearly defined. In accordance with the Statute and applicable regulations, the responsibility is divided between the Ethics Committee, the Disciplinary Committees, and ultimately, the Faculty Management. In cases of disagreement **between students and teachers**, the first step usually involves an advisory conversation as part of the monthly meetings of the Office of Student Support or through student representatives, which successfully resolves most situations at an early stage. For more complex cases, a formal procedure is initiated at the level of the institution. This ensures a functional vertical of support and accountability mechanisms, whereby all stakeholders are familiar with the possibilities of reporting and the sequence of actions.

The Ordinance on the Organisation of Jobs of the Faculty regulates the mutual rights and obligations of employees. Employees with leading roles of organisational units, such as the head of the department or the head of the chair, are responsible for the management and organisation of the work of the employees of these organisational units, while the secretary of the Faculty supervises all professional services. Conflicts **between employees** are tried to be prevented by creating a stimulating working environment and regular and open communication (an example is already visible in the work programme of the Dean of the Faculty in Annex I.4.5.1), and to be resolved at the level of organisational units and with members of the Management Board. For more complex cases, a formal procedure is initiated at the Faculty or University level.

The higher education institution encourages research into the causes and consequences of unethical behaviour, the effectiveness of measures taken to prevent it, it reports on research results and monitors trends.

The Faculty recognizes the importance of researching the causes and patterns of unethical behaviour so that preventive and corrective measures are based on the real needs of the community. In cooperation with the University and external experts, employee participation in projects, trainings and analyses dealing with the topic of ethics, academic integrity and professional conduct is encouraged. The Faculty regularly undertakes ethical measures and reports on them (examples are given in Annex I.4.6.1). In addition, an example of good practice is the participation of Faculty members in university bodies that prepare statistical overviews and thematic reports on the occurrence and types of unethical practices, and propose guidelines for the formation of preventive strategies. The employee of the Faculty is a member of the Council for Gender Equality, which adopted the Guidelines on Gender Inclusive Communication (Annex I.4.1.4) and initiated the development of the Guidelines for Diversity and Inclusion (Annex I.4.1.6). Also, the results of student surveys include thematic blocks related to the perception of fairness and professional attitude in teaching. Members of the OUK Committee conduct a detailed analysis of quantitative indicators and student comments and suggestions from student surveys for individual courses. The average score for all categories in Part B and for the statement "Teacher treated students with respect" are given in Annex I.4.6.2.

The higher education institution applies new technologies to eradicate all forms of unethical behaviour. The higher education institution systematically addresses issues of plagiarism, cheating and falsification of results.

Teachers are encouraged to submit a **Statement on Independent Work** (Annex I.4.1.8) as a mandatory element when submitting seminars, projects and papers, while in 2021 the signing of such a statement was organized, which was valid until the end of the study for all students (visible in the minutes of the OUK Board meetings, Annex I.4.7.1). The instructions for writing, presentation and defence of the final and graduate thesis (Annex I.4.7.2) prescribe that when submitting the thesis, students are required to submit **a Statement on Independent Work** (Annex I.4.1.8), and **proof of the originality of the thesis** signed by the mentor. For this purpose, **Turnitin** (Decision - Annex I.4.2.2), a licensed **text authentication software** that compares papers with a large database of online sources, scientific articles and student papers, is used

throughout the University. This actively prevents plagiarism and encourages the application of ethical academic standards. The software is also available to students, and teachers and associates are also used to review other types of student papers. The faculty fosters academic integrity and strongly condemns all forms of unethical behaviour such as plagiarism, copying, and forgery. Any reasonable suspicion of plagiarism, copying and falsification of results in students is reported to the Disciplinary Committee (statistics of the conducted procedures are in Annex I.4.4.1, and an example of the procedure is in Annex I.4.4.2). Disciplinary proceedings are reported annually to the sessions of the OUK Committee, on the basis of which measures are adopted to encourage and ensure ethical behaviour of students (minutes of the OUK Committee meetings in Annex I.4.4.3). Violations in the form of plagiarism and forgery represent a serious violation of the University Code of Ethics. At the beginning of the academic year, the Vice-Deans for Quality Assurance and Development and for Teaching and Students inform freshmen about the rules of ethical behaviour and disciplinary responsibility during introductory presentations (Annex I.4.2.1). At meetings with teachers, teachers are systematically encouraged to act in case of violations of the Code of Ethics by students and refer to the reporting procedure (an example of an invitation to teachers in Annex I.4.4.4). Failure to act in such cases endangers academic integrity and trust in the system, and damages the reputation of the institution itself.

I.5 The quality assurance system is periodically improved and revised on the basis of the results of implementation of regular internal and external quality assurance procedures.

The higher education institution fosters the development of a quality culture that promotes the importance of active participation in internal and external quality assurance processes among all stakeholders of the higher education institution, so that they fulfil their purpose, act as a catalyst for change, and offer new perspectives to the higher education institution.

The Faculty continuously develops and nurtures a culture of quality that includes all stakeholders – teaching and non-teaching staff, students, external associates and representatives of the economic and social sectors – with the aim of achieving excellence in education, science and social action, in accordance with the Act on Quality Assurance in Higher Education and Science Official Gazette 151/22 (ZOK). The culture of quality at the Faculty is not understood as an administrative obligation, but as **an integral element of academic responsibility and continuous improvement of work**. Awareness of the importance of quality is built through the Faculty's strategic documents, constant information and involvement of stakeholders in all key decision-making, planning and evaluation processes.

The quality assurance system relies on clearly defined standards and guidelines, among which the key are the Ordinance on the Quality Assurance System (Annex I.1.1.4) and the Quality Manual of the Faculty of Civil Engineering (Annex I.5.1.1), the Ordinance on the Quality Assurance System (Annex I.5.1.2) and the Manual for the Quality of Study at the University of Rijeka (Annex I.5.1.3), and special attention is paid to compliance with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). As a constituent part of the University, the Faculty has accepted and directly applies the Regulations and the Quality Manual of the University, while the Faculty Regulations and the Manual define in more detail the elements and extended procedures of the quality assurance system. These documents provide the basis for shaping the Quality Policy of the Faculty and the implementation of activities that contribute to the systematic and transparent improvement of quality.

The functional units of the quality assurance and improvement system at the Faculty are the OUK Committee, the Student and Teacher Support Offices (hereinafter: the Offices), the Doctoral Studies Committee, the Community and Economy Cooperation Committee and other permanent advisory and working bodies of the Faculty, whose scope of work is regulated by other general acts of the University and

the Faculty. The OUK Faculty Board operates in coordination with the Quality Committee of the University of Rijeka (UNIRI Committee) and is part of the University's quality assurance system. At the level of the Faculty, the Ordinance on the Internal Organisation of the Faculty (Annex I.2.1.2) established the Quality Service and requested the approval of the required position from the competent Ministry. Pending approval, the Quality Committee assumes a coordinating and operational role in the implementation of all quality assurance processes. The Faculty is aligned with the University of Rijeka, which has a Centre for Quality Assurance and Improvement of the University and specialized staff, including an employee in charge of supporting the constituents.

Active involvement of stakeholders is a key element of building a culture of quality. Student representatives participate in the OUK Committee and other working bodies of the Faculty, and all students directly evaluate the teaching process at the level of the course and study programme. In addition, targeted surveys, monthly meetings of the Student Support Office (which includes student representatives of all study years of each study programme implemented at the Faculty) and consultations are used to collect specific feedback on certain aspects of study programmes or administrative support. Teachers and associates are continuously involved in the evaluation and improvement of teaching content, learning outcomes and teaching methods, while external stakeholders are involved through the Committee for Cooperation with the Community and the Economy, the Advisory Committee for Science, and workshops and expert consultations.

Feedback from conducted surveys, evaluations and analyses is the basis for planning changes and improvement of courses through, for example, redistribution of ECTS credits, adaptation of teaching methods or designing new forms of student support. The results are analysed at the level of the course, the study programme and the entire Faculty, and the conclusions are reported to the relevant bodies and stakeholders, which ensures transparency of the process and feedback in decision-making. The results are analysed by the OUK Committee consisting of all heads of departments, which ensures broad involvement and coordination.

The Faculty regularly participates in quality assurance system audits, such as internal audits conducted by the University and re-accreditations conducted by the Agency for Science and Higher Education (ASHE). The results of these internal (documentation from the last one conducted in 2023 is in Annex I.3.1.13) and external evaluations (documentation from the last one conducted in 2018 is in Annex I.3.1.14) are used as valuable incentives for improving internal processes, strengthening institutional resilience and harmonisation with international standards. This enables the Faculty to act proactively as an organisation that promotes excellence, learns from its own experiences and uses quality assurance mechanisms as drivers of development and change.

The quality assurance system is periodically improved and revised on the basis of results of implementation of the regular internal and external quality assurance procedures in line with the ESG, and it is reported to stakeholders in a timely, clear, accurate and objective manner.

Monitoring of the quality assurance and improvement system is systematically carried out in accordance with ESG through **external evaluation** of the quality assurance system and **internal evaluations** of the system based on the guidelines of the Ordinance on the Quality Assurance System and the Manual for the Quality of Study of the University. In 2019 (Annex I.3.1.12) and 2023 (Annex I.3.1.13), the Faculty conducted an internal audit, and in 2018 it underwent re-accreditation by ASHE (Annex I.3.1.14). In 2016, a special re-accreditation of the doctoral study was carried out (Annex I.5.2.1).

The Faculty informs internal users and external stakeholders about the reports of expert committees in the procedures of internal assessment and external evaluation of the quality assurance system through the reports of the Dean and Vice-Dean at the Faculty Council and by publishing evaluation documents on the Faculty website. Action plans (adopted on the basis of reports) and implementation reports made on the

basis of the recommendations of the SOC Internal Audit Committees, Re-accreditation and External Independent Audit of the SOC are available on the Faculty's website. Employees receive structured reports through Faculty Council sessions, while students get informed through the website, bulletin boards, and email notifications.

The results of external evaluations are analysed by the Faculty Management, and the results of internal evaluations are analysed by the OUK Board and reported to the Dean and members of the Faculty Council at discussion points of the Council sessions. The results of all these evaluations are regularly analysed, and based on them, action plans for improvement are made (examples of Action Plans).

Quality assurance is complemented by internal procedures for the annual evaluation of courses and teachers by students through the ISVU system (the procedure in Annex I.5.2.2 is part of the Quality Manual), and the data are analysed at the level of the OUK Board and are available to Board members, course holders, heads of organisational units and the Management Board (annual reports are in Annex I.5.2.3). In addition, targeted surveys on student workload are carried out, as well as surveys of students who interrupt their studies about the reasons for academic failure (Annex I.5.2.4), surveys of first-year students who have enrolled in the academic year for the first time about the motivational reasons for choosing a particular program of study, surveys of completed students on the experience of studying, evaluation of user satisfaction with the services of professional and administrative support services and library services, and evaluation of the work of laboratory technicians (Annex I.5.2.5).

The higher education institution conducts an internal evaluation of the quality assurance system in a cycle that is shorter than the length of the external evaluation cycle.

The University regularly conducts internal evaluation of the Faculty's quality assurance system according to the procedure defined in the Study Quality Manual at the University of Rijeka (Annex I.5.1.3) and the Faculty Quality Ordinance (Annex I.1.1.3), with mandatory reference to the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). At the same time, the quality assurance system of the Faculty is functionally integrated with the quality assurance system of the University. The Committee for Quality Assurance and Improvement and the Centre for Quality Assurance and Improvement organize and conduct an internal audit of the quality assurance system at the University of Rijeka and are responsible for its effectiveness. Internal assessment is carried out on the basis of a plan adopted by the Quality Assurance and Improvement Committee and approved by the Senate of the University of Rijeka. The results of the internal audit are publicly published on the website of the University of Rijeka.

Internal auditing is carried out **in three-year cycles** (except for the interruption due to the COVID-19 pandemic), which ensures timely identification of challenges, continuous improvement of processes and preparation of documentation in a way that reflects the actual situation, thus achieving a high level of preparation for external assessments. Internal audits were conducted in 2018 (Annex I.3.1.12) and 2023 (Annex I.3.1.13), and the last re-accreditation was carried out in 2018 (Annex I.3.1.14). Internal assessment includes self-evaluation of the Faculty, analysis of relevant documents (council minutes, study statistics, survey results), surveying of stakeholders (students, teachers, associates), as well as thematic focus groups and consultations with external experts. This procedure assesses the contribution to the continuous improvement of the quality culture at the Faculty, and the aim of the third cycle of internal assessment was to assess **the functionality and expediency of the quality assurance system and its contribution to the achievement of the mission and overall development of the higher education institution** and all its activities. The internal assessment of the quality assurance system at the University of Rijeka is organized and carried out by the University Board and the Centre for Quality Assurance and Improvement, which are also responsible for its effectiveness. The assessment is carried out according to a plan adopted by the Committee and approved by the University Senate. The results of the internal assessment are presented to the Faculty Council, which considers them and adopts conclusions, while the summary with the key

conclusions is also available on the University website. In the Internal Audit Report, the Commission assesses the development of the quality system and makes recommendations for its further improvement and development. After each assessment, an action plan is developed with clearly defined goals, activity holders and deadlines, and the implementation of this plan is regularly monitored and evaluated.

The higher education institution ensures the competence of internal assessors, and encourages them and provides them with necessary knowledge and skills.

The internal assessment of the constituents of the University is carried out as an independent judgement, so that the assessors in the procedure are not from the constituent to be assessed. Internal assessors at the University are chosen among quality assurance experts, most often from the ranks of the Quality Committee from other constituents. Every year, the University organizes training for the members of the committees participating in the internal audit process, where participants are introduced to all phases of the procedure in detail: from planning, through the implementation of the audit, to the preparation of the final report. The Faculty continuously sends individual members of the OUK Board to education and regularly finances the participation of teachers and associates in the lifelong learning programme "Teaching Competencies in Higher Education: Quality Assurance in Higher Education" (Annex I.5.4.1), which is carried out by the Faculty of Humanities and Social Sciences in Rijeka. The programme is primarily intended for people involved in the quality assurance system, but also for all teachers. As part of this programme, the Quality Assurance in Higher Education module is also performed through 20 hours of classes worth 4 ECTS credits. The course provides participants with basic knowledge about the quality assurance system, introduces them to strategic documents, external and internal evaluation mechanisms in the European context, the work of ASHE and the specifics of the application of the quality system in various higher education institutions. So far, 6 teachers of the Faculty have completed this programme, and one teacher participates in the implementation of the programme as a lecturer.

The higher education institution ensures that the preparation for internal and external quality assurance processes considers the progress made since the last internal and external quality assurance processes, which form a continuous improvement cycle and contributes to accountability of the higher education institution.

After the external or internal evaluation of the Faculty and the report of the evaluation committee has been obtained, the Faculty shall use the conclusions and recommendations of the committee as a basis for the development and implementation of action plans. These plans are a key tool for managing change and monitoring progress, ensuring that evaluations are not one-off activities, but an integral part of a cycle of continuous improvement. The progress made under the action plans is monitored on an annual basis - the Faculty Management prepares a report on the implementation of the action plan, which is considered by the OUK Committee and submitted to the Faculty Council. Based on the analysis of the degree of implementation, decisions are made on the possible revision of activities, priorities for the next period and the necessary resources. Stakeholders are informed in a timely manner about the conclusions and changes through council sessions, e-mails and publications on the official website of the Faculty.

After **the institutional re-accreditation of the Faculty carried out by AZVO in 2018, a** letter of expectation was received and an Action Plan for Quality Improvement (Annex I.3.1.14) was drafted, which precisely defined the recommendations, responsible persons and deadlines for the implementation of measures. In its report, the expert committee highlighted the **excellent quality and attitudes of students at all levels**, **laboratory infrastructure comparable to the world level**, **a large number of newly employed and active teaching staff** and **very good support for international activities** as advantages, while the system of student advancement in the study, the application of the quality policy, the formalisation of cooperation with the economic sector and the use of laboratory infrastructure were highlighted as disadvantages. Upon the submission of the Report on the Elimination of Deficiencies in 2022 and the positive Accreditation

Recommendation of ASHE adopted on the basis of the opinion of the ASHE Accreditation Council, the Faculty was issued a Certificate of Compliance with the Conditions for Performing Higher Education and Scientific Activities. The detailed recommendations of the Committee have significantly contributed to the improvement of the SOC of the Faculty, and the most significant changes and improvements are:

- multiple assessment of final and graduate theses has been introduced, defined by the Ordinance on the Evaluation and Evaluation of Students' Work at the Faculty (Annex I.5.5.1)
- the organisational structure of the Faculty was revised and a new structure scheme was developed with a visible hierarchical and functional connection
- Student and Teacher Support Offices have been established
- the Lifelong Learning Programme Differential Programme for Enrolment in the Graduate Study of Civil Engineering is accredited (the description of the programme is given in Annex II.5.5.2)
- changes have been made to the university undergraduate programme (documentation is provided in Annex I.5.5.3) with a strengthened share of field teaching and laboratory and project work (the amended study programme is in Annex I.5.5.4)
- a free week for exam preparation at the end of each semester has been introduced (visible in the class calendar)
- a mandatory procedure for the analysis of exam questions and objectivity of assessment in the course as part of collaborative teacher assessments (Annex I.5.5.5) has been established, which is one of the criteria for obtaining a certificate of institutional monitoring of the quality of teaching work
- workshops on the preparation of the final thesis were organized, which also include issues of research ethics
- experts from the economy were offered to conduct laboratory tests through the preparation of graduate theses or co-mentorship on final and graduate theses within which specific professional projects are developed (Uniri Class project GraDiS)
- a catalogue of courses (Annex I.5.5.6) that can be taught in English and the enrolment procedure for foreign students have been created and published
- the Faculty Library Development Strategy for the period 2025 – 2028 was developed (Annex I.5.5.7),
- annual awards for scientific and teaching excellence and knowledge transfer have been introduced (the decision on awarding is in Annex I.5.5.8)
- the number of professional bases of the Faculty has been expanded, as well as activities in which companies are involved, such as the AdriaTech exhibition of innovations, the Innovation Forum, the Festival of Science, the holding of professional lectures as part of classes and meetings of the Alumni community, workshops for students, UNIRI Career Days events, the Open Days of the Faculty, the Boost Camp event and the like (according to the Ordinance on Expert Bases of the University of Rijeka in Annex I.5.5.9 introduces a procedure for granting the status of an expert database given in Annex I.5.5.10)
- the needs of the market and the wider community were analysed as a preparation for the development of training and lifelong learning programmes and the planning of enrolment quotas,
- a fund for financing scientific research projects in cooperation with industry has been established,
- Open Access Policy was defined
- the Communication Plan of the Faculty (Annex I.5.5.11) was defined
- a Scientific Research Strategy was developed in which members of the Committee for Cooperation with Community and Business, as well as internationally recognized scientists, were actively involved
- an Advisory Committee for Science composed of representatives of the industrial sector was established with the aim of contributing to the development of the Scientific Research Strategy

- numerous student and teacher satisfaction surveys have been conducted and improvement measures have been adopted.

Similarly, based on the **results of the Faculty's internal assessment conducted in 2023** (Annex I.3.1.13), revision of graduate courses was initiated, with course holders, the Working Group (Annex I.5.5.2) and the Faculty Management making proposals for the modernisation of teaching content and evaluation methods. These proposals were then analysed in the OUK Committee and adopted by the Faculty Council. In addition, **the annual results of the student surveys** (Annex I.5.5.13), including assessments of satisfaction with teaching, workload and academic support, are used as a basis for further improvements and represent an important indicator of progress between the two evaluation cycles. The results of all conducted evaluations and examinations serve as a basis for making management decisions aimed at continuous improvement of the quality of studying and work at the Faculty.

The joint impact the internal and external quality assurance processes have on the development of the higher education institution is being analysed and monitored.

The Faculty analyses and monitors **the impact of the results of internal and external quality assurance procedures**, with the aim of continuous improvement of academic, scientific and organisational excellence. An integrated approach to evaluation allows for a comprehensive understanding of institutional strengths and weaknesses, as well as the definition of priority areas for development. Internal evaluation processes, coordinated by the Quality Committee of the University and the Faculty, provide a detailed insight into everyday activities, from teaching performance and student satisfaction, to the effectiveness of administrative support and monitoring student performance. On the other hand, external procedures, primarily re-accreditation, bring an objective and impartial perspective, aligned with national and international standards, including ESG guidelines. The Faculty actively uses the synergy of these two sources of evaluation to make thoughtful and strategically focused decisions about its own development.

On the basis of both types of evaluation, action plans are drawn up, in which goals, responsible persons, deadlines and success indicators are clearly indicated. For example, **after the re-accreditation in 2018.**, an Action Plan (Annex I.5.6.1) for improvement was developed, which included recommendations on stronger connection to the labour market, encouraging international cooperation and developing a student support system. At the same time, **the internal evaluation carried out in 2023.** (Annex I.3.1.13) enabled the recognition of the need for technical improvement of the teaching process, which resulted in the increased introduction of e-learning and additional technical equipment in laboratories. Internal processes provide insight into the functioning and specific needs of the Faculty, while external processes enable objective assessment from the outside and ensure compliance with national and international standards.

The higher education institution publishes clear, accurate, objective, valid and easily accessible information on the internal and external evaluation procedures.

All important documents and information on evaluation procedures – including internal audit reports, the Action Plan for Improvement after External Re-accreditation, the summary results of student surveys and the results of the implementation of action plans – are published on the official website of the Faculty. This information is regularly updated and produced according to the standards of the University, and is available in PDF format. In addition to publishing through the website, information is also shared through the SharePoint system for teachers, and presented at Faculty Council meetings and meetings of the Student Support Office.

After each internal or external evaluation procedure, the results and recommendations are discussed at the level of the OUK Board and the Faculty Council, where the causes of the identified deficiencies are analysed and concrete improvement measures in the Action Plans are defined. The conclusions of these discussions shall be documented and shall form an integral part of the minutes of the meetings of the OUK Board and

the Faculty Councils. For example, the results of the internal audit from 2023, which included recommendations on better vertical harmonisation of the curriculum and adjustment of the ECTS workload, were presented to all teachers at the Faculty Council, and then publicly published on the Faculty website. Progress in the implementation of the action plans is regularly monitored, and the results are presented through reports at the sessions of the Faculty Council, available to all stakeholders on the Faculty website. The reports transparently state the recommendations that have been implemented (e.g. increasing the representation of practical teaching in graduate studies), recommendations that are being implemented in progress (e.g. strengthening support for international mobility), and obstacles and challenges in implementation (e.g. insufficient staff support for the analysis of survey data). By publishing the results of the evaluation, the Faculty strengthens the trust of stakeholders and shows how feedback leads to real changes, such as additional consultations or adjustments to deadlines. Feedback from surveys, focus groups, alumni evaluations and cooperation with employers is integrated into decision-making and development of study programmes. An example is the introduction of more software tools in teaching based on the suggestions of graduate students and employers.

II. STUDY PROGRAMMES AND LIFELONG LEARNING PROGRAMMES

The Faculty of Civil Engineering in Rijeka provides high-quality and modern study programmes and lifelong learning programmes that are aligned with the needs of the labour market, scientific and professional achievements, and national and European qualification frameworks, enabling students to acquire relevant competencies for professional development and lifelong learning. The Faculty carries out five accredited study programmes of the appropriate levels according to the Croatian Qualifications Framework (CROQF):

- University Studies:
  - **University Undergraduate Study** in Civil Engineering (Level 6),
  - **University Graduate Study** in Civil Engineering (Level 7),
  - **Doctoral Study** in Civil Engineering (level 8),
- Professional studies:
  - **Professional Undergraduate Study** in Civil Engineering (Level 6),
  - **Professional Graduate Study** in Civil Engineering (level 7).

The Faculty has four accredited lifelong learning programmes: a preparatory course for freshmen, a differentiation programme with the aim of encouraging horizontal mobility, and two lifelong learning programmes with ECTS credits - micro-credentials, of which three are currently being performed.

II.1 The intended learning outcomes at the level of a study programme are aligned with the competences a student should gain by completing the study programme, as well as with the CroQF level (ESG 1.2).

The intended learning outcomes of the study programmes and all the elements of the study programmes (courses, modules, practicals, seminars, student practice, projects, etc.) are clearly defined and examples of good practice are used to define the intended learning outcomes (e.g. ECTS Users' Guide, 2015).

Learning outcomes are clearly defined in all study programmes at the level of studies, courses, professional practice and final theses. Learning outcomes are an integral part of each study programme and transparency and availability of learning outcomes are ensured by publishing them on the website (learning outcomes of all studies Annex II.1.1.1). In the process of defining learning outcomes, the guidelines from the ECTS User Guide and international standards in higher education of civil engineering professionals were used. Teachers have been repeatedly trained to apply the concept of study programmes based on learning outcomes (Handbook for Learning Outcomes Annex II.1.1.2, publication on learning outcomes Annex II.1.1.3 within the projects *Learning Outcomes in Higher Education of Civil Engineers* of the National Science Foundation from 2009, *Development and Application of the Croatian Qualifications Framework in the Field of Higher Education of Civil Engineers* from 2015, a series of trainings, especially during the pandemic (Annex II.1.1.4), and training on constructive alignment *From Outcome to Evaluation 2024* (Annex II.1.1.5). Study programmes are structured in accordance with methodological recommendations, where each activity (lectures, exercises, seminars, project work, professional practice) is focused on the achievement of specific learning outcomes, which is evident from the tables of constructive alignment for each course (course implementation plans, PROVIS system Annex II.1.1.6, Annex II.1.1.7, analytics of coverage of study learning outcomes with course learning outcomesAnnex II.1.1.8). Each study programme has clearly stated learning outcomes that are aligned with the levels of education (CROQF, ECO), and there are clearly expressed differences in the level of learning outcomes and responsibilities for study programmes of individual levels of the CROQF (Annex II.1.1.1).

Professional studies emphasise operational and practical skills, direct connection with the needs of the labour market, while university studies focus on the development of theoretical thinking and research competencies and are the basis for continuing scientific training (comparison of learning outcomes of

university and professional studies Annex II.1.1.9). By comparing learning outcomes of all study programmes (Annex II.1.1.10) it was pointed out that the differences according to the Dublin descriptors clearly indicate the progressive complexity, depth of understanding and expected level of independence and creativity of students from lower to higher levels of the CROQF. Level 6 is focused on basic understanding and application of knowledge and solving standard problems in civil engineering practice, Level 7 expands competencies to more complex problems, specialist knowledge, critical evaluation and project management, while Level 8 represents the pinnacle of scientific development, with original research and the highest level of independent professional and scientific work.

Learning outcomes are updated and modernized during major changes in study programmes and are improved based on feedback from external stakeholders (outcome analysis Annex II.1.1.11, focus group with alumni and employers Annex II.1.1.12 during changes to university undergraduate studies) and based on the experience and expertise of teachers who are experts in their field and follow the development of science and profession, striving towards medium to higher levels at level 6 of the CROQF, or higher levels of Bloom's taxonomy at level 7 of CROQF study programmes (example of major changes implemented in 2018 at the undergraduate university study, outcomes until 2018, Annex II.1.1.13, outcomes from 2018. Annex II.1.1.14).

The general learning outcomes of the study programme are elaborated in exact individual learning outcomes for each course, which is visible in the study programmes and detailed teaching plans. The learning outcomes of the course are also aligned with the Croatian (CROQF) and European (QF-EHEA) frameworks, formulated according to Dublin descriptors and Bloom's taxonomy, which ensures different levels of thought processes. For all study programmes, matrices of learning outcomes for the current academic year are defined, which show that there is a clear relationship between the learning outcomes of study programmes and the outcomes of individual courses (Table 2.1). Constructive alignment tables have been a mandatory component of detailed course implementation plans since 2009, and are continuously revised and updated after teacher education, introduction of new teaching and evaluation methods (example Annex II.1.15). The Guidelines for the Evaluation of Learning Outcomes of the University of Rijeka are also used. Course learning outcomes and their connection with the outcomes of the study programme must be entered into the PROVIS system, with the application of constructive alignment and modern teaching and assessment methods, which will enable the revision of learning outcomes and teaching methods (example Annex II.1.1.16).

In order to ensure the harmonisation of learning outcomes with the labour market, surveys and evaluations are carried out by different groups (students, teachers, alumni and business experts, examples of results are in Annex I.2.3.2).

The intended learning outcomes are aligned with the mission and objectives of the higher education institution.

The learning outcomes are fully aligned with the mission of the Faculty, which includes the development of highly educated experts in the field of civil engineering, the improvement of civil engineering science and the contribution to the development of the economy through the transfer of knowledge and technology.

In defining the learning outcomes of study programmes and courses, the goals of sustainable development, the acquisition of digital and green skills and socially responsible behaviour and inclusiveness are also included, which shows compliance with the Strategy of the Faculty, the University and the European Sustainable Development Goals (SDGs). The learning outcomes are in line with all four main strategic goals of the Faculty of the Development Strategy GF 2024 – 2028, which are aligned with the Development Strategy of the University 2021 – 2025, and through which it continues to strengthen and expand the basic

objectives of the Development Strategy of the GF 2018 – 2022. (Research, Education, Public Function and Organisation).

Raising scientific excellence – Graduate and postgraduate studies develop students' research competencies through working on projects and applying advanced methods of analysis in civil engineering. Students are trained in the use of modern building materials, numerical modelling and new technologies. The publication of scientific papers in co-authorship with students is encouraged (Reports on Scientific Production Annex II.1.2.1, Proceedings of the Faculty of Civil Engineering). The criteria for the evaluation of final and graduate theses include the criterion *of innovation or a special contribution of the work,* which carries 15% of the total grade, and which encourages the creation of a paper within a scientific research project, the creation of a paper in the laboratory, field research, numerical modelling, programming, innovative solutions and the application of a scientific research approach.

Strengthening cooperation with the economy and the development of national and regional identity and culture – Students are enabled to gain practical competencies through various teaching methods and activities: field teaching, practical and problem tasks in class, project tasks in programmes, preparation of final and graduate theses, inclusion in challenges, guest lectures by experts and professional practice courses. Professional practice integrated into study programmes enables students to acquire practical competencies in real working conditions, as well as practical classes in all courses, and guest lectures by renowned experts and alumni (lecture records Annex II.1.2.2). From 2022, representatives of professional bases attend the defences of final and graduate theses, in order to make the discussion more substantive, and to generate ideas for new topics that students can explore in their papers, and that are relevant in the profession (example of the call Annex II.1.2.3).

Increasing the relevance, quality and efficiency of studies – Learning outcomes are adapted to the current needs of the profession and enable students to develop professional and generic competencies (critical thinking, teamwork, communication). In order to increase the quality of students' professional competencies, guest lectures by experts are continuously organized (Annex II.1.2.2, invitation example Annex II.1.2.3). Part of the outcomes of study programmes can be acquired in foreign and interdisciplinary programmes within the framework of mobility or the offer of joint elective courses of the University (Annex II.1.2.4).

Strengthening social responsibility – Learning outcomes include making students aware of the importance of sustainable development and ethical responsibility in the civil engineering profession. The Faculty encourages students to work on energy efficiency and sustainable civil engineering projects at the local and national level (inclusion of students in local partnership projects of the City of Rijeka Annex II.1.2.5, Think as an Entrepreneur Annex II.1.2.6, Yufethon Annex II.1.2.7, INDUSAC Annex II.1.2.8, GUESSS project Annex II.1.2.9), and teachers to introduce service-learning (lecture *Model of Community-Based Learning - Innovation in Higher Education* Annex II.1.2.10, Plan of Activities as Recommended by the Committee for Internal Assessment of the Quality Assurance System for Further Improvement of the Quality Assurance System of the Faculty of Civil Engineering Annex II.1.2.11).

The intended learning outcomes of the study programmes and all the elements of the study programmes are mutually aligned.

Learning outcomes are carefully coordinated at all levels, from individual courses to the entire programme. Each course contributes to the achievement of the overall competencies of students defined at the level of study programmes. This is confirmed by the process of amending the study programme of the university undergraduate study programme in Civil Engineering (Annex II.1.3.1), where the learning outcomes of the courses were defined in such a way that they were paired with the learning outcomes of the study programmes, and the learning outcomes of professional courses were first defined, and which then directed

the definition of learning outcomes in the courses where basic theoretical knowledge is acquired, and which are necessary as a basis for professional courses. Horizontal and vertical alignment is ensured through coordination between curricula, where knowledge and skills are upgraded from basic to specialized. Changes to study programmes are made in such a way as to ensure vertical alignment with studies in the same educational vertical. Learning outcomes matrices for study programmes (Table 2.1) show the alignment and support of the learning outcomes of the study programme with the learning outcomes of the courses, and the tables of constructive alignment (a mandatory part of detailed teaching plans) ensure the consistency of teaching methods and evaluation methods. Assessment and evaluation are based on activities that are linked to the learning outcomes of the course and ensure their acquisition. In the long term, it is planned to consider the introduction of assessment based on learning outcomes.

The intended learning outcomes are used as a starting point for the development and revision of the study programme, the delivery of the study programme and the assessment and evaluation of the student's achievements. They are designed to allow students to progress through their studies without obstacles.

Learning outcomes are continuously evaluated and revised to ensure relevance and alignment with the development of the profession and the needs of the labour market (example of evaluation by students, teachers and employers, Annex II.1.1.10). After the annual analysis of student feedback surveys, measures are adopted to adjust the learning outcomes, i.e. teaching methods and content to achieve learning outcomes (introduction of field teaching and project assignments in most courses based on surveys of completed students Annex II.1.4.1, introduction of YUFE and joint elective courses UNIRI and Coursera in the curriculum Annex II.1.4.2, adaptation of the content of mathematics courses based on performance and student surveys Annex II.1.4.3). Each course includes clearly defined evaluation methods, where student achievements are closely related to the achievement of the intended outcomes. The system of prerequisites between courses (example in Annex II.1.4.4) allows for the logical and gradual development of competencies, thus ensuring the smooth progression of students. Each study programme has clearly defined learning outcomes of programmes and courses, and a learning outcome matrix (Table 2.1), which ensures the acquisition of learning outcomes of the programme through course activities. When creating a new study programme or modifying an existing one, the starting point are always the learning outcomes of the study programme which then progress to the sets of learning outcomes of the course. The top-down principle is applied, where the learning outcomes of the higher level are branched out and elaborated into the learning outcomes of the lower level that are acquired in the lower year courses, where the basic knowledge (mathematics, physics, etc.) is acquired, and which are also prerequisites for the higher year courses (Annex II.1.4.5). This ensures smooth advancement in the study by achieving all the defined prerequisites and learning outcomes of the prerequisite courses. The level of adoption of learning outcomes in the course is expressed by percentage points on a scale from 0 to 100%, with a passing grade of 50%. In order to successfully pass the course, it is necessary to adopt all learning outcomes: part of them is continuously evaluated during the semester (the student can achieve 50–70% of the grade points), and the remaining part (30–50%) is achieved at the final exam, which is defined by the Ordinance on the Evaluation and Evaluation of Students' Work and elaborated in the detailed course performance plans. According to the same Ordinance, it is possible to achieve a final grade only on the basis of positive continuous evaluation during classes, provided that all learning outcomes of the course during the semester are adopted and evaluated successfully (Annex II.1.4.6).

The intended learning outcomes of the study programmes are aligned with the descriptors of the relevant CroQF and EQF level. The qualifications gained upon completion of the study programmes are clearly described and presented.

The learning outcomes of undergraduate studies at level 6 of the CROQF are defined in such a way that they develop knowledge and skills from all categories of that level, which is visible in the tabular overview of the

compliance of the learning outcomes of university undergraduate and graduate studies with the CROQF and the Dublin descriptors at level 6 and level 7 of the CROQF, with special attention being paid to the responsibilities and independence that the student needs to achieve at a certain level of the CROQF. At the **undergraduate level, the basic competencies of the civil engineering profession are acquired, while the graduate study enables specialisation and the development of advanced engineering skills**. Learning outcomes in undergraduate studies are predominantly focused on **understanding, application and analysis**, while higher outcomes such as **synthesis and creation** are also included in university undergraduate studies. Graduate studies are dominated by outcomes focused on **application, analysis, evaluation,** synthesis **and creation**. In all studies, the largest share of learning outcomes is at the level of application, while in university studies a significant share of outcomes is also found at the level of evaluation and synthesis/creation, as at the highest levels of Bloom's taxonomy (comparison of learning outcomes of university and professional studies Annex II.1.5.1, comparison of learning outcomes of all study programmes in accordance with the levels of the CROQF Annex II.1.5.2).

The qualifications that are awarded, as well as academic and professional titles, are defined by the study programme, the Register of Study Programmes of the Republic of Croatia, and highlighted on the website of the Faculty and the ISVU system. The qualifications are aligned with the ZVOZD (OG 151/2022), ZOK (OG 151/2022), the Act on Academic and Professional Title and Academic Study (OG 123/2023), and thus European standards (Decision of the Faculty Council on Harmonisation, Annex II.1.5.3). **Diplomas and diploma supplements** are issued in accordance with the applicable legislation and the latest standards (ZOK, Ordinance on the form and content of certificates, diplomas and supplementary documents on studies (Official Gazette 74/2023), and the Ordinance on the additional content of certificates, diplomas and supplementary documents on studies and the form and content of the certificate of the University of Rijeka, Decision of the Senate on the recognition of extracurricular activities during which students acquire relevant competencies and the entry of data in the Supplementary Document on Study), in digital and printed form in Croatian and English (copies of diplomas, Annex II.1.5.4). **Academic and professional titles** are harmonized with the ZVOZD (Decision of the Faculty Council, Annex II.1.5.3) and published on the website.

The intended learning outcomes of the study programmes clearly reflect the competencies required for employment, education continuation, or other needs of the individual/society.

The learning outcomes of study programmes enable the acquisition **of competencies necessary for the design, civil engineering, supervision and maintenance of civil engineering facilities**, as well as the continuation of education at graduate and doctoral studies, and prepare students for **lifelong learning and professional development**. Table 2.1. shows a clear difference in the level of learning outcomes at the undergraduate, graduate and doctoral studies, and the simultaneous sequence and upgrade of these outcomes at the graduate study so that students have the competencies necessary for inclusion in the labour market after obtaining a qualification.

Based on the results **of surveys of graduates (Alumna),** some of whom are employers (Annex II.1.6.1), and **representatives of companies** with which the Faculty cooperates (Annex II.1.6.2), and regular evaluation of courses through student surveys, study programmes are continuously improved through the content and outcomes of courses, teaching methods and tools (versions of study programmes are published on the website). Changes are systematically introduced into the detailed implementation plans of the course, with special attention being paid **to the compliance of the content with the needs of the industry**, including **the implementation of new technologies, materials and working methods**.

The needs of the labour market and the expectations of employers were identified by their active participation in changes to study programmes as members of working groups (Annex II.1.6.3, Annex II.1.1.10), evaluation of learning outcomes through surveys (results Annex II.1.6.4), participation in focus groups (results Annex II.1.6.5) and meetings with members of working groups for changes (employers 1

Annex II.1.6.6 and employers 2 Annex II.1.6.7). Special emphasis was placed on **cooperation with the Croatian Chamber of Civil Engineers (HKIG)** (example of the invitation Annex II.1.6.8 minutes of meetings Annex II.1.6.9).

The adaptation of teaching content, teaching methods and evaluation is based on the results of these analyses. Thus, changes have been introduced in the course implementation plans, **new technologies and modern building materials** have been implemented, and **new forms of knowledge evaluation have been introduced** that better follow the development of engineering competencies (evidence of introduced innovative methods).

The intended learning outcomes of the study programmes are comparable with the intended outcomes of comparable programmes in the Republic of Croatia and EU Member States.

The learning outcomes of the Faculty are comparable to the programmes of similar institutions in Croatia and the European Union. When creating new study programmes, examples of good practice from prestigious European technical universities were used: TU Munich, ETH Zürich, universities in Graz, Brno, Padua, Maribor and Edinburgh. Analyses of comparable programmes were used as a basis for defining the structure and learning outcomes, especially in the context of encouraging international student mobility and compatibility of qualifications within the European Education Area (analysis of foreign programmes and accreditations Annex II.1.7.1).

The programmes are in line with the recommendations of **the European Civil Engineering Education and Training** (EUCEET) network, ensuring relevance to European educational objectives and professional requirements. In addition, the criteria of the **Accreditation Board for Engineering and Technology** (ABET) from the USA and **the Accreditation Agency for Study Programmes in Engineering, Informatics, Natural Sciences and Mathematics** (ASIN) from Germany were taken into account when defining and evaluating the learning outcomes, which ensured that the programmes also meet international standards of engineering education. Compliance with the above criteria and international practices contributes to the recognition and transparency of qualifications acquired at the Faculty and facilitates the mobility and employability of graduates in the European and global context (comparison of international criteria and links with the learning outcomes of the Faculty, Annex II.1.7.2).

Only one occupational standard in the field of civil engineering is currently registered in the CROQF register: Civil Engineer, and the corresponding sets of competencies. There are no qualification standards in the field of civil engineering entered in the register, and therefore no sets of learning outcomes. In 2023**, members of the Association of Croatian Civil Engineering Faculties** (UHGF) established a working group that works on the development of a proposal for a set of learning outcomes and the corresponding qualification standard for university undergraduate studies (Annex II.1.7.3).

The compliance of the learning outcomes of our programmes with the programmes of related faculties in the Republic of Croatia is confirmed by the participation of the Faculty in the project *Development and Application of the Croatian Qualifications Framework in the Field of Higher Education of Civil Engineers* and the analysis of learning outcomes of all university undergraduate studies of civil engineering at level 6 of the CROQF, prepared as a working material of the UHGF Working Group for the Development of Qualification Standards (mapped learning outcomes Annex II.1.7.4).

The intended learning outcomes of the study programmes also include the development of generic (general/key/transferable) and profession-specific competences.

In addition to specific technical knowledge, learning outcomes include the development of generic competencies, such as: **analytical and critical thinking**, **problem-solving** and **decision-making**, **communication** and **presentation skills**, **the use of digital technologies** in engineering practice, **teamwork** and **project** management (Office 365, Google, Excel, Word, Power Point, online communication and

collaboration platforms Annex II.1.8.1, Annex II.1.1.15, Annex II.1.8.2, Merlin LMS system, MOOC platforms such as Coursera Annex II.1.8.3, specialized computing tools Annex II.1.8.4, Annex II.1.8.5).

These competencies are integrated through the application of different teaching methods, professional practice and project work, ensuring that students are ready to work in interdisciplinary teams and adapt to the demands of the modern labour market. A significant number of undergraduate level courses, and **all graduate level courses,** include the **development of a project, project or programme assignment, case studies** often based on **real problems**, which are developed in a team in courses with a larger number of students, and include oral defence in the form of answering specific questions and argumentation and explanation of the chosen solution or are presented, which is emphasised in the detailed implementation plans of the colleges (Annex II.1.8.2, Annex II.1.8.6, Annex II.1.8.7). In undergraduate courses, there are compulsory courses, such as Informatics in Engineering, which acquire the basics of digital skills required for study, as an upgrade of skills acquired in secondary education, and equalisation of the level between students who have completed different secondary school programmes (Annex II.1.1.15, Annex II.1.8.8). At the university undergraduate study, there are compulsory courses, such as Informatics in Engineering, where students acquire basic digital skills required for the study program, as an enhancement of skills gained during secondary education, and equalization of the level of knowledge between students who have completed different secondary school programs (Annex II.1.1.15, Annex II.1.8.8). In 2023/2024, the elective course Communication Skills (Annex II.1.8.9) was introduced, which students can enrol in in the 2nd or 3rd academic year. Most courses of all study programmes include teamwork and cooperation, oral defence and argumentation of the chosen solution, and often the presentation of seminar papers and online collaborations (Annex II.1.8.2, Annex II.1.8.10), . Oral presentation and defence of final and graduate theses is a mandatory part of the study completion procedure (Ordinance on Evaluation and Evaluation of Students' Work, Articles 9 and 10).

In the period from 2020, all students of the University were provided with access to online education (courses) on the Coursera platform for four years, where education for students was specially selected and highlighted as part of the Coursera for Campus - UNIRI Basic Plan programme. Each student could enrol in an unlimited number of courses from the catalogue, and acquire one certificate per year, and individual students were nominated for award-winning personal licenses for a period of 4 months within which they could acquire an unlimited number of certificates for courses and programmes of their choice.

The intended learning outcomes of the study programmes also include raising ethical awareness, as well as the ability to reflect ethically and to apply ethical principles in decision-making related to professional issues, and the issues related to the profession, arising in a multicultural context.

Within the study programmes, special attention is paid to the ethical aspects of the civil engineering profession. Students are introduced to **the principles of ethical behaviour**, the **responsibility of engineers towards society and the environment,** and the regulatory framework of the civil engineering industry (introductory presentation for freshmen Annex II.1.4.2, reminder of the Code of Ethics Annex II.1.9.1). Degree programmes include courses and activities that develop students' ethical awareness through case study analysis, consideration of sustainable development, and professional responsibilities (e.g., Environmental Protection, Waste Management, Water Management, Environmental Impact Assessment, Urban Water Systems, Waste Management).

An example of incorporating and strengthening ethical awareness and **the ability to think ethically** and **apply ethical principles** to learning outcomes (Table 2.1):

- SVP - LO12: Work effectively and collaborate in a group/team while respecting professional and ethical principles

- SVD - LO12: Effectively manage a group, work in a group and collaborate with group members of both their own and other professions on the development and implementation of more complex projects, taking into account professional and ethical principles
- STP - LO10: Work effectively and collaborate in a group/team respecting professional and ethical principles
- STD - LO12: Efficiently coordinate spatial planning and maintenance of buildings and communal systems, work in a group and cooperate with group members of both their own and other professions, taking into account professional and ethical principles.

II.2 The higher education institution determined the processes for planning and developing new study programmes, and for monitoring and periodically revising the existing ones. This ensures that the study programme is up-to-date, and that the content of study programmes is aligned with the latest scientific / artistic / professional knowledge (ESG 1.2. and ESG 1.9.).

Processes for the development of new study programmes, and continuous improvement of the existing ones are clearly defined, they involve internal and external stakeholders, they are consistently implemented, and undergo a formal approval process within the higher education institution.

The Faculty has clearly defined and documented processes for the development of new and revision of existing study programmes based on the strategic documents of the Faculty and the University and harmonized with national regulations and ESG standards. The University has adopted the Ordinance on Quality Assurance in the Field of Evaluation of Study Programmes of the University of Rijeka (Annex II.2.1.1), the Instruction on the Implementation of the Quality Assurance Procedure in the Field of Evaluation of Study Programmes at the University (Annex II.2.1.2) and the Instruction on the Implementation of the Procedure for the Evaluation of Study Programmes of the University (Annex II.2.1.3), and through the website provides all information on amendments to existing and accreditation of new study programmes. The processes are formalized in the Regulations of the Faculty, such as the Regulations on Studies (Annex II.2.1.4) and the Regulations on the Quality Assurance and Improvement System (Annex II.2.1.5), and all proposals undergo the procedure of evaluation, review and approval. Special attention is paid to the analysis of the coherence of the programme, the representation of different branches of civil engineering and compliance with the development of science and profession at the local and global level. Regular internal evaluations of the quality assurance system (according to Annex II.2.1.6), which also include study programmes, are carried out in three-year cycles (last conducted at the Faculty in 2023, Annex II.2.1.7), and periodic revisions can be carried out on the basis of the results of student surveys and teaching evaluations, feedback from the labour market, recommendations from external evaluations (e.g. ASHE) and changes in the legislative framework, or in the academic environment.

The process of amending existing and launching new study programmes at the Faculty is based on the systematic **collection of feedback** and the involvement of experts with relevant scientific and professional competencies. The audit is usually initiated by an analysis of the results of student surveys (which serve as an important source of information on the quality of teaching, the structure of the programme and the needs of students, for example in Annex II.2.1.8) prepared by the **OUK Committee**, which, based on the analysis of data and identified needs for changes or new content, makes recommendations. These recommendations are sent to the **Faculty Management**, which, in cooperation with the competent committees, considers the justification and strategic orientation of the proposed changes or new programmes. After that, teachers are actively involved in the process according to their scientific and professional expertise in the field relevant to a particular programme or course. Their participation ensures

a high level of quality and compliance of the programme with current scientific knowledge. The final proposals are considered and adopted by the Faculty Council, followed by a procedure at the level of the University of Rijeka and, if necessary, the competent regulatory bodies (ASHE, in case of the need for initial accreditation of studies). Internal and external stakeholders participate in the processes, including **course holders and assistants** (they form proposals for content and learning outcomes), **students** (through student surveys, representatives in councils, working groups and Student Support Offices), **alumni and employers** (through surveys, professional workshops, cooperation in projects and participation in working groups), and other **representatives of the profession** (comment on compliance with the needs of the labour market and practice). For example, the course of changes to the study programme of the university undergraduate study, which, based on student surveys, recommendations from the previous cycle of re-accreditation and the need to modernise the programme, was carried out in 2023 is shown in Annex II.2.1.9.

The key indicators for monitoring the quality of study delivery and the methods of gathering and analysing the necessary information resulting in reports with proposals for improvement of the programme have been defined. In order to create an effective learning environment and to support the students, there is an evaluation of the students' workload, progression, pass rates and completion of studies; as well as the effectiveness of student evaluation processes; the students' expectations, needs and satisfaction with the programmes, and the learning environment and fitness for purpose of the programme support services.

The Faculty has established a systematic approach to monitoring the quality of study programmes, based on clearly defined key quality indicators and structured methods of data collection and analysis, in order to continuously improve study programmes and environments for learning and student support. The key indicators monitored by the Faculty include the **workload of students** in relation to the awarded ECTS credits at the course level, **academic success** (progression, pass rate, completion by generations and years of study, average grades obtained in courses), the time of study and the proportion of students who complete the study within the nominal deadline, **evaluation outcomes** (pass rate by course, distribution of grades, examination procedures), student satisfaction with the study programme, teaching, teachers and administrative support, **satisfaction of graduates and employers**, efficiency of support and professional services (library, office, IT support, counselling centre), etc. Data are regularly collected through:

- anonymous student surveys on the quality of teaching and teachers (examples in Annex II.2.2.1), which are conducted for all courses at the end of each semester and are considered relevant only if **at least 33% of students** and **at least 10 students have completed the surveys** (as defined by the Quality Manual of the Faculty of Civil Engineering (Annex II.2.2.2) and the Quality Manual of the University of Rijeka (Annex II.2.2.3))
- a survey on the workload of students and compliance with the actual time needed to meet obligations, which are an integral part of student surveys (examples in Annex II.2.2.4)
- evaluation of graduates and employers (graduate surveys in Annex II.2.2.5, targeted alumni surveys to obtain more detailed information when considering the improvement of study programmes)
- teachers' reports and analysis of passing and completion data (examples in Annex II.2.2.6)
- internal evaluations and self-assessments by the OUK Committee
- final surveys at the doctoral study (Annex II.2.2.7).

The collected data are analysed in cooperation with the Vice-Dean for Quality Assurance and Development and the Vice-Dean for Education and Student Affairs, the OUK Board and the Office of Student Affairs, and the results are presented in the form of annual reports on the quality of teaching (Annex II.2.2.8) and study success (Annex II.2.2.9) containing specific recommendations for improvement. The collected data of the doctoral study are analysed by the Vice-Dean for Science and the Doctoral Study Board, on the basis of which annual reports on the doctoral study are prepared (Annex II.2.2.10). They are the basis for revising the content and learning outcomes of courses, aligning the student workload with ECTS credits in courses,

changes in teaching and testing methods, planning training for teachers and professional services, and providing additional support to students in recognized risk points of study, which continuously improves study programmes, ensures the relevance of the curriculum and improves the overall student experience.

Changes to study programmes and current versions of study programmes have been recorded.

The Faculty keeps systematic and transparent records of changes and additions to study programmes, including changes at the level of courses, learning outcomes, ECTS credits, teaching methods and literature. All changes are made through a procedure that includes teaching staff, students, the OUK Board, the Faculty Council and the competent bodies of the University. Changes are documented in the minutes of meetings of faculty bodies and in the accompanying documentation of proposed changes (forms, tables, proposals for new/changed courses, visible in the example of changes to undergraduate university studies carried out before the beginning of the academic year 2023/2024 in Annex II.2.3.1). In this way, it is ensured that all changes are monitored over time, with clearly indicated dates, explanations and responsible persons/bodies.

The current versions of all study programmes are publicly published on the website of the Faculty in Croatian (university undergraduate - Annex II.2.3.2, university graduate - Annex II.2.3.3, professional undergraduate Annex II.2.3.4, professional graduate - Annex II.2.3.5 and doctoral study - Annex II.2.3.6), as the official language of higher education in the Republic of Croatia, and in English (university undergraduate - Annex II.2.3.7, university graduate Annex II.2.3.8, professional undergraduate Annex II.2.3.9, professional graduate Annex II.2.3.10 and doctoral study - Annex II.2.3.11), to ensure the accessibility of information to foreign students, partners and institutions in an international context. Each programme is accompanied by information on the structure of the programme by year, a list of courses with corresponding ECTS credits, defined learning outcomes of the programme and courses, teachers in charge of the course, content, method of teaching and evaluation of each course, and mandatory and additional recommended literature. Publication in both language variants contributes to transparency, international visibility and strengthening mobility and cooperation in the European Higher Education Area. All current versions are available to students and teachers through the ISVU system, which ensures operational coordination between the administrative and performance aspects of the study.

Study programme content enables the achievement of the intended learning outcomes.

The learning outcomes of each programme are defined at several levels (from an individual course to the entire programme) and designed in accordance with the relevant standards and guidelines of the European Higher Education Area (while the learning outcomes at the level of studies in the field of civil engineering have not yet been enrolled in the CROQF, but the Association of Croatian Civil Engineering Faculties is currently working on it). The structure of study programmes is designed to enable **the development of basic engineering knowledge**, as well as its **transfer into a practical context**, especially **through professional, project and laboratory courses**/parts of courses. Theoretical content is closely related to practical tasks, and forms of teaching such as auditory/project exercises, fieldwork, project tasks and teamwork enable students to apply the acquired knowledge and acquire competencies from a real professional context. In this way, a direct link is established between the content of the course and the learning outcomes that students need to achieve in order to acquire professional competencies for employment or continuing education.

The outcomes and contents of the course are carefully aligned with the outcomes of the study programme in order to enable students to gradually and logically progress through the study, from basic knowledge and skills to more complex professional and analytical competencies, which is evident from the learning outcome matrices given in Table 2.1. In addition, the methods of knowledge assessment and evaluation are aligned with the learning outcomes, i.e. partial exams, exams, seminars and project

assignments/programmes are structured in such a way that they enable a clear verification of the achieved level of knowledge and competencies. Literature and other sources of knowledge are carefully selected in order to be based on current scientific and professional knowledge and reflect the dynamics of the development of the civil engineering profession. The consistency of content and outcomes is checked through evaluations and feedback, and based on this, improvements in teaching and assessment are proposed.

The content of study programmes follows the latest scientific / artistic and professional research in a given discipline, ensuring that the programmes are up to date and compatible with the changed needs of society and the students' needs and expectations.

The Faculty continuously develops and improves its study programmes in accordance with the latest scientific and professional knowledge in the field of civil engineering, engineering and related disciplines. The modernity and relevance of the content is ensured through a strong connection between the teaching process and the research work of teachers (according to the principle of indivisibility of higher education and scientific research, as defined by the mission of the Faculty), the institutional Strategy of Scientific Research (Annex II.2.5.1) and feedback from business experts. Most of the Faculty's teachers actively participate in competitive national and international scientific research projects, such as those of the Croatian Science Foundation, the Erasmus+ programme and the Horizon Europe programme (the list of projects is in Table 5.6), and regularly publish papers in renowned scientific journals (data on scientific publications are in Table 5.1), which directly contributes to enriching the teaching content with the latest knowledge in the profession. The results of scientific research are systematically transferred to teaching through updating courses, applying modern tools and methods, topics of seminar, graduate and final papers, and involving students in scientific projects, field teaching and publishing papers. Examples include advanced field and laboratory studies of slope stability, methods of coastal flood risk assessment, and modelling of torrential and urban floods, developed through projects of the Department of Water and Geotechnical Engineering (e.g. 4SeaFlood). Recently, new elective courses have been introduced in the doctoral study (the programme is in Annex II.2.5.2), such as courses in the field of engineering geology (created as a result of a doctoral thesis), micropolar continuum (created as a result of a doctoral thesis) and mechanics of unsaturated soil (created as a result of a doctoral thesis)), based on research by young teachers. From academic year 2023/2024, a new university undergraduate study of civil engineering was launched with the possibility of acquiring micro-credentials (acquired by enrolling in a set of courses that are part of the study programme, and by passing of which students are enabled to additional specialisation in a certain field), a larger selection of elective courses and a strengthened focus on independent work and the acquisition of competencies.

The faculty actively **engages with economic and social stakeholders**, including civil engineering companies, design offices, local communities, public administration institutions, and chambers of engineers. Cooperation is formalized through the granting of the status of a professional base, but also through daily cooperation in the implementation of professional practice, the preparation of final and graduate theses, and the organisation of joint workshops and professional meetings. Feedback from practice enables the Faculty to recognize changes in the needs of the labour market in a timely manner and to adapt study programmes to the real expectations of employers and competencies required in the economy. Of particular importance in the strategic development of study programmes is the role of advisory bodies, such as **the Committee for Cooperation with the Community and the Economy** and **the Advisory Committee for Science** (committees), which include representatives of industry, professional associations and the business sector. These bodies have an advisory and development function in guiding the revisions and improvements of the programme in line with global technological and market trends, including green building, digitalisation in civil engineering (BIM), sustainable development and energy efficiency. Special attention is paid to

connecting students with innovations and industry through professional workshops and lectures, job fairs, guest lectures on practice and cooperation with the alumni community. Through all these activities, it is ensured that the contents of the study programmes are not only based on scientific facts, but are also dynamic, adapted to the contemporary challenges of society and the profession, and aligned with the expectations of students who want an education that is applicable, relevant and future-oriented.

The Faculty continuously invests in the **modernisation of the teaching process** through the procurement of new scientific and professional literature, digital tools and laboratory equipment. **Investments in research infrastructure**, such as state-of-the-art laboratories and field measuring equipment, enable students to directly acquire knowledge through practical work in conditions that correspond to real challenges in practice.

Students actively participate in the research activities of the Faculty, either through involvement in projects and work in laboratories, the preparation of final and graduate theses based on research or participation in scientific and professional conferences that the Faculty regularly organizes, which resulted in numerous **papers co-authored by students and teachers** of the Faculty published in the Proceedings of the Faculty, at national and international conferences and in international scientific publications (visible in Annex II.2.5.3).

The content of study programmes allows students to acquire and perfect their digital skills, where applicable.

The Faculty recognizes the development of digital competencies as a key component of modern education of civil engineers, which is why digital skills are integrated into the Faculty's study programmes at all levels – undergraduate, graduate and doctoral. Within the course, digital tools, computer simulations, programmes and methods of digital data processing are used and developed, which enables students to acquire the knowledge and skills necessary to work in a modern engineering environment. Specialized software is regularly used in teaching and available to students thanks to institutional licensed support (the list of available programmes in Annex II.2.6.1 is publicly published and is continuously updated). For example, in the courses Computer Modelling, Steel Structures, Computational Hydraulics, Traffic in Cities, Urban Water Systems, students create **computer models of structures**, **hydraulic models** and conduct **engineering analyses and visualisations** through practical tasks. This develops the ability to work in digital tools that are also used in professional practice.

A special contribution to the development of digital competencies is achieved through research, graduate and final theses in which students independently apply software packages for structural analysis, hydraulic models, GIS, as well as programming languages such as Python for creating independent algorithms for the analysis and processing of engineering data. In graduate theses, there is an increasing share of the integration of digital modelling and computer simulation (e.g. development of own algorithms, use of BIM software, FEM analyses, traffic microsimulations, etc.), as well as experimental methods and field tests (e.g. model tests, implementation of experimental validations, integration of field measurements). A graduate thesis in which an algorithm for the analysis of seismic response of long structures in Python was developed, which was validated by an extensive series of experimental tests on a system of earthquake platforms, was awarded as the best graduate thesis in civil engineering in Croatia in 2023. The graduate thesis in which the mathematical model of floods was used in combination with GIS mapping was awarded as the best graduate thesis in the field of hydraulic engineering in Croatia in 2021.

The development of digital skills is documented in curricula, course descriptions and tasks that students solve, and evaluations show that students appreciate the focus on digital tools and new technologies. The faculty actively uses the Merlin platform as an e-learning system, through which students access teaching materials, create homework, receive timely notifications, and participate in online tests and forums. In addition, the use of systems such as Zoom, BigBlueButton and MS Teams has enabled remote lectures and consultations, especially during the COVID-19 pandemic, when the Faculty switched to digital working

methods in a short period of time thanks to previous teacher education and investments in digital equipment (Annex II.2.6.2). Additional technical support (graphic tablets, cameras, microphones) was also purchased to adapt to the new situation and conduct digital teaching (Annex II.2.6.3). **Digital competencies** are not only part of individual courses, but **have become an integrated part of the Faculty's teaching strategy**, and further development is envisaged in the University's Development Strategy for the period 2021-2025 (Annex I.1.3.1) and the Faculty Development Strategy for the period 2024-2028 (Annex I.1.1.1).

The study programmes content ensures horizontal and vertical student mobility in the national and European education area.

The Faculty continuously develops and improves study programmes in accordance with the principles of the Bologna Declaration, which ensures horizontal and vertical mobility of students within the national and European higher education area. Study programmes are based on learning outcomes and the ECTS system, which enables facilitated transfer and recognition of ECTS credits, recognition of previously acquired qualifications and inclusion in international educational flows. **Vertical mobility** is enabled through a clearly defined way of progressing between levels of study: from undergraduate university study of civil engineering, through graduate, to postgraduate doctoral study. The study programmes are harmonized in content and thematically connected, which enables students to continue their education without hindrance. The Croatian Association of Civil Engineering Faculties is working on harmonizing the learning outcomes of undergraduate and graduate levels of university studies in civil engineering with the aim of defining learning outcomes and occupational standards within the CROQF. The Faculty actively encourages **horizontal mobility**, both within and outside the University of Rijeka. Students can choose courses from the University List of Free Courses, as well as enrol in elective courses at other constituents of the University or foreign institutions. Earned ECTS credits are recorded in the Diploma Supplement (in Croatian and English in Annex II.2.7.1), which facilitates academic and professional mobility.

As part of mobility programmes such as Erasmus+ and CEEPUS, students of the Faculty regularly participate in exchanges, attend courses at partner institutions, prepare final and graduate theses abroad, and perform professional internships. 32 students participated in outgoing and 132 students in incoming mobility from the academic year 2019/2020 to 2023/2024 (Table 3.5 and reports in Annex II.2.7.2). The Faculty has bilateral agreements with almost 40 higher education institutions from Europe (the list is given in Annex II.2.7.3), which further facilitates mobility. Through the work of the Vice-Dean for Education and Student Affairs and the coordinator for Erasmus+ and CEEPUS mobility, students are provided with individual support in all phases of the preparation and implementation of mobility, from course selection to recognition of ECTS credits. The University of Rijeka is a member of the YUFE network (Young Universities for the Future of Europe), which represents a strong strategic partnership of young, research-intensive universities from a number of European countries, and provides additional opportunities for student mobility. Due to the smaller scope of outgoing mobility compared to incoming mobility, the Faculty is continuously working on its improvement, including participation in short-term BIP programmes.

At the level of the Faculty, there is also a Committee for the Recognition and Evaluation of Prior Learning (On PVPU), which, on the basis of the adopted Ordinance on the Recognition and Evaluation of Prior Learning of the University of Rijeka (Annex II.2.7.4), considers and makes decisions on the recognition of qualifications and passed courses at other institutions. This mechanism increases the flexibility of studies and enables mobility for both returnees from foreign exchanges and students who continue their studies from other institutions.

In order to provide opportunities for internationalisation, many courses are taught or partially available in English, which allows incoming students to integrate more easily and facilitates the organisation of joint programmes with foreign institutions. As proof of successful mobility, the Faculty keeps statistics of mobile

students and students who have entered or exited the programme through exchange, and the data are regularly published in annual reports and evaluations of study programmes.

An additional form of horizontal mobility is achieved through the possibility of transferring students between study programmes at the same level and students from other higher education institutions, and through enrolment in a bridging programme (programme in Annex II.2.7.5, application for enrolment in Annex II.2.7.6), which enables students with previously completed undergraduate professional studies in civil engineering to continue their education at the Faculty graduate university study of the Faculty.

It is ensured that the ECTS points are aligned with the actual student workload.

The Faculty systematically monitors and ensures the compliance of ECTS credits with the real student workload, all in accordance with the principles of the Bologna Process and European standards for higher education. All study programmes are structured in such a way that the academic workload of a student of 60 ECTS credits per year corresponds to approximately 1800 hours of student work, including lectures, exercises, self-study, homework, seminars and the preparation and passing of examinations. The award of ECTS credits is based on **an estimate of the actual time needed to achieve the anticipated learning outcomes**, which is defined in the description of each course (Annex II.2.8.1). In the phase of development and revision of study programmes, course holders, in cooperation with the OUK Committee, analyse the workload of students per teaching activity and harmonize the number of credits with the documented requirements of the course. In order to check and ensure the consistency of the anticipated and actual workload, the Faculty regularly conducts **student surveys at the end of each semester** (examples in Annex II.2.8.2), in which students assess how much time invested in individual courses corresponds to the awarded ECTS credits. For example, surveys conducted during the academic year 2021/22 and 2022/23 indicated overload in certain courses, which prompted the revision of teaching activities and, in some cases, the redistribution of ECTS credits (e.g. the course Hydrology at the university undergraduate study, previously assessed with a workload of 3 ECTS credits (visible in Annex II.2.8.3) was allocated 4 ECTS credits (visible in Annex II.2.8.4)). Decisions on changes are made at the level of the Faculty Council, and at the proposal of the OUK Board and with a prior analysis of teaching loads and student comments.

Students are actively involved in the processes of revision of study programmes through their representatives in the Faculty Council, but also through comments in surveys, evaluations and direct proposals when participating in working groups for the development and modification of study programmes (example in Annex II.2.8.5), which ensures that corrections and adjustments to study obligations are based on the actual experience and needs of students. The transparency of the system is further ensured by the fact that course descriptions with clearly stated ECTS credits and anticipated workload are available to students through the Faculty's website in official documents (Curriculum, detailed implementation plans, ISVU system). In this way, students know in advance what obligations and engagement are expected of them during the semester.

II.3 Student practice is an integral part of study programmes, where applicable.

Student practice allows acquisition of practical skills, in line with the intended learning outcomes, where applicable.

Student internships at the Faculty are designed to systematically contribute to the acquisition of practical skills in accordance with the anticipated learning outcomes. Professional practice as a course is carried out in cooperation with civil engineering companies, in which students participate in real business and civil engineering processes under the professional supervision of mentors. The acquisition of the expected practical outcomes is also achieved through the courses of study programmes that contain a significant share of practical activities based on project-based and problem-based learning: solving specific engineering tasks and challenges, project teaching (examples of programme tasks Annex II.3.1.1), and through the

preparation of graduate theses in the company (GraDis Annex II.3.1.2). The share of ECTS through the acquisition of practical competencies within teaching is highlighted in the course implementation plans. According to the analysis, in all studies, about 40% of the total ECTS credits of studies are achieved through such activities (Report on the Implementation and Achievement of the Quantitative Goals of the Strategy of the University of Rijeka for 2023, Annex II.3.1.3). A special contribution to the acquisition of practical competences is provided by guest lectures given by experts from the field, which are regularly organized within and outside the classroom (lecture records Annex II.1.2.2), where the experts present specific projects and challenges they have encountered, describe engineering decision-making procedures and give insight into the application of knowledge in a professional context.

Student practice is conducted systematically and responsibly.

The Faculty conducts student internships as a structured and mandatory component of undergraduate studies within the courses, with clearly defined goals, content and learning outcomes, and optionally as part of the preparation of final and graduate theses in individual courses of all studies. The internship is organized outside the Faculty, in cooperation with the economy, primarily civil engineering companies, and is carried out under the supervision of a professional mentor. Courses related to student practice are taught by the Chair of Construction Management and Technology. **The process of performing professional practice** includes several phases: introductory information to students, safety at work, issuing a referral, work in a company or on a construction site, keeping an internship log, preparing a study and defence. All communication and submission of documentation takes place through the Merlin system, and the evaluation is clearly defined in the course implementation plan (Annex II.3.2.1) and concluded with the entry of the grade in the ISVU. Students have the option of choosing a company from the list of professional databases of the Faculty or, with the consent of the teacher, choose another appropriate organisation. The internship can also be carried out during the summer months, with greater time flexibility. The detailed procedure and the workflow of activities in the execution of professional practice are described in a separate document (Annex II.3.2.2).

Student practice forms a part of the study programme, and is organised outside the higher education institution, in cooperation with the industry, where applicable.

At the university undergraduate study (until 2022/2023), students do their internship through the compulsory course of the 6th semester ***Fieldwork*** (3 ECTS). In the professional undergraduate study, practice is carried out through the compulsory course of the 6th semester ***Professional Practice*** (15 ECTS). *Fieldwork* has 3 ECTS credits and 30 hours of exercises and 60 hours of seminars and includes a 40-hour stay of the student on the construction site. The course *Professional Practice* carries 15 ECTS credits, 360 hours of exercises and 60 hours of seminars and entails a 360-hour stay of students on the construction site. The objectives of the courses, within which the student internship is performed, include introducing students to the practical application of organisational and technological knowledge, as well as the acquired knowledge from other professional courses through solving specific tasks on the construction site. The internship is organized outside the Faculty in cooperation with the economy, i.e. construction companies that are primarily engaged in the execution of works (they can be professional bases). In the new university undergraduate study programme (2024/25) (Annex II.3.3.1) **two compulsory courses** were introduced through which professional practice is carried out, which doubled **the number of ECTS credits** for professional practice and quadrupled **the number of hours spent on the construction site**.

Most of the courses in all studies, especially professional ones, include activities such as active exercises, project programme (individual or group) tasks, laboratory exercises, field teaching, and teachers are continuously encouraged to do so (curriculum plans Annex II.3.3.2, analysis of the number and type of examinations Annex II.3.3.3, Annex II.3.3.4, field plan Annex II.3.3.5, example of field teaching Annex II.3.6).

The higher education institution provides support to student practice mentors and organisations in which the students conduct student practice, through guidance programmes and/or training programmes for mentoring students during student practice.

The Faculty provides support to professional mentors and organisations in which student internships are carried out. Subject teachers submit referrals, instructions on learning goals and outcomes, and forms for confirmation and evaluation of practice to mentors. The Career Office and the Chair for Construction Management and Technology maintain communication with employers and mentors and are available for counselling throughout the internship.

Through projects such as GraDiS, the Faculty develops formalized models of cooperation and orientation for mentors (meeting minutes), and feedback from surveys and evaluation forms is used for continuous implementation improvement. Special attention is paid to the inclusion of mentors in the wider academic community, professional mentors are invited to public defences of final and graduate theses that are made in cooperation with companies, which strengthens their connection with the educational process and recognizes their contribution (sample papers). At the University level, additional support is provided by activities such as UNIRI Career Days and cooperation with the University's Career Office. This ensures that mentors have all the necessary information and support for quality guidance of students through professional practice.

The processes for monitoring and improving the quality of student practice are clearly defined, continuously implemented, and they involve internal and external stakeholders.

The importance of professional practice and the acquisition of professional competences is generally recognised by students, teachers and employers, as evidenced by student surveys, graduate surveys (example in Annex II.3.5.1) and employer surveys. The importance of professional practice and practical competencies in general in study programmes is a topic that is present in all strategic documents and policies and measures for improvement, acts, conclusions of faculty working bodies. In this way, information, suggestions and opinions of students, external stakeholders and students are systematically and continuously collected, and through all aspects that are recognized as a suitable tool and opportunity, attempts are made to improve the acquisition of professional competencies or integrate a new form.

The system of monitoring and evaluating the quality of the courses Professional Practice and Fieldwork is defined by the Ordinance on the Quality Assurance System and the Quality Manual of the Faculty of Civil Engineering in Rijeka. For the purpose of quality assurance, regular student surveys are conducted (formal evaluation of courses at the end of the semester by students). In order to take into account the time and obligations of employers and to avoid an excessive burden of frequent inquiries and surveys, employer surveys are carried out as needed, with the consolidation of inquiries related to different segments and needs of the Faculty (examples).

Work is being done on several levels to improve and develop professional practice: from increasing the share and manner of its implementation within study programmes, through the introduction of the possibility of preparing final and graduate theses in cooperation with companies, to the inclusion of professional practice in mobility through Erasmus+ and CEEPUS. Faculty bodies such as the Career Office and the Committee for Cooperation with the Community and the Economy are also actively participating, while additional progress is being made through project and teaching initiatives. Given that the courses Professional Practice and Fieldwork shall be taught by the recently elected assistant professor the academic year 2025/2026, who was so far an associate in the courses (the course holder has retired), further improvement of the professional practice at the Faculty is planned and expected, all in cooperation with the Office for the Improvement of Teaching and the Committee for Cooperation with the Community and the Economy. European and other guidelines for the inclusion of work-based learning (WBL) such as: ENQUA report: Quality Assurance and

Work Based Learning, UK Quality Code for Higher Education, Advice and Guidance: Work-based Learning shall be used.

The collected and analysed information is used to promote good practice, and to initiate the actions needed for improvement.

Based on the results of student surveys, the need to strengthen practical competencies and increase the share of professional practice in study programmes was noticed. Structural and substantive changes have been made to the university undergraduate study, with the parallel development of professional practice at several levels: through teaching, final and graduate theses in cooperation with companies, international mobility, and institutional and individual initiatives. Analyses and updates of course performance plans are carried out in order to more accurately quantify ECTS credits focused on practical competencies. The Careers Office and the Business Relations Committee regularly collect and analyse feedback from stakeholders, and the annual reports of these bodies serve as a basis for improvements – including expanding the network of professional bases, engaging with alumni and employers, introducing public defences of professional practice, and implementing initiatives such as the GraDiS project (Annex II.3.6.1, Reports on the Office's Activities 2021-2024. Annex II.3.6.2, Annex II.3.6.3, Annex II.3.6.4, Annex II.3.6.5, Committee activity reports 2022-2024 Annex II.3.6.6, Annex II.3.6.7, Annex II.3.6.8).

At the University level, the Career Office organizes UNIRI Career Days, with the aim of strengthening students' career competencies and connecting with the labour market (Annex II.3.6.9, Annex II.3.6.10, Annex II.3.6.11). In accordance with the measures of the Faculty from 2023, it is planned to reduce the number of ECTS credits for the graduate thesis in order to introduce a course of professional practice in the graduate study (Annex II.3.6.12). Within the framework of the GraDiS project, a procedure for the preparation of graduate theses has been developed in cooperation with companies (Annex II.3.6.13, Annex II.1.2.3), which shall be included in the study programme and the Study Regulations. Also, through the Erasmus+ project The Career Garden, a virtual platform for professional internships has been developed with the aim of connecting students internationally with employers.

II.4 Quality assurance of lifelong learning programmes is part of the internal quality assurance system of the higher education institution. This ensures that study programmes are relevant and up to date and that they meet the current social needs.

The mission statement and strategic planning process are the starting points for the development of lifelong learning programmes aligned with them.

In accordance with its mission and Strategy, the Faculty promotes high-quality education and research in the field of civil engineering, whereby lifelong learning plays a key role in transferring knowledge from the academic community to the economy and profession, strengthening competencies, encouraging innovation and responding to market needs, legislative changes and technological challenges, relying on the specific professional capacities of its teachers. The development of such programmes is based on the Ordinance on Lifelong Learning of the University of Rijeka, which defines basic standards and quality assurance mechanisms. Accordingly, all programmes developed at the Faculty must be aligned with institutional goals, including relevance, flexibility of delivery, applicability in practice, and an interdisciplinary approach. The Faculty currently offers four accredited lifelong learning programmes, all of which are aligned with the following strategic settings:

1. **Bridging programme for enrolment in the graduate university study of civil engineering** – intended for persons who have completed an undergraduate professional study and wish to continue their education at a university graduate study, which facilitates academic vertical mobility and

encourages a return to the education system (the description is in Annex II.4.1.1, and the application for enrolment is in Annex II.4.1.2),

2. **Preparatory course for undergraduate freshmen in the STEM field** – allows students from different secondary schools to equalize their initial knowledge of mathematics, descriptive geometry and mechanics, thus ensuring inclusiveness and success in the early stage of study (description is in Annex II.4.1.3),
3. **Micro-credential Applied Mechanics in Contemporary Engineering Practice** – focuses on improving the application of mechanics in a professional context through current software tools and examples from practice based on a good knowledge of the laws of mechanics and methods for the analysis of mechanical behaviour (the description is in Annex II.4.1.4, and the application for enrolment is in Annex II.4.1.5),
4. **Project-oriented interdisciplinary micro-credential Environmental Engineering**, developed in cooperation with the Faculty of Engineering and the Faculty of Biotechnology and Drug Development (the description is in Annex II.4.1.6, and the application for enrolment is in Annex II.4.1.7).

All these programmes are based on the analysis of market needs and social challenges, and their development confirms the Faculty's focus on current topics such as energy efficiency, digital transformation and engineering integrity. The programmes, in addition to defined prerequisites for enrolment, are aimed at students, industry professionals, unemployed people and people who want a career change. In addition to accredited programmes, the Faculty regularly organizes professional lectures and workshops for members of the Alumni community, which expands access to lifelong learning. If necessary, the programmes are organized modularly, with the possibility of online or combined classes, in order to be available to employed persons and candidates from other cities.

Internal quality assurance system of the higher education institution includes the processes for quality assurance of lifelong learning programmes.

The processes of quality assurance of lifelong learning are integrated into the quality assurance system of the Faculty. Lifelong learning is part of the strategic development of a higher education institution, and thus the subject of regular monitoring, evaluation and quality improvement by the relevant faculty bodies. All lifelong learning programmes are subject to the competence of the OUK Faculty Board, which monitors their implementation and coordinates the evaluation procedures. When applying for a new programme, proposers are required to submit documentation confirming compliance with the mission of the Faculty, clearly defined learning outcomes, workload expressed in ECTS credits (where applicable), method of teaching, evaluation mechanisms and target group of participants (an example of an application is in Annex II.4.2.1). All programmes must be developed according to the elements prescribed in **the Ordinance on Lifelong Learning of the University of Rijeka** (Annex II.4.2.2) and are applied on the forms developed by the University, and their evaluation is carried out in accordance with **the Instruction on the Implementation of the Accreditation Procedure for Lifelong Learning Programmes at the University of Rijeka** (Annex II.4.2.3) and appropriate forms, in cooperation with the Commission for Lifelong Education of the University.

Quality assurance of the programme is carried out according to the same principles and procedures as for full-time study programmes. The evaluation is based on (1) **checking the formal requirements** at the time of application, (2) **evaluating the implementation through surveys** and student feedback, and (3) an annual **analysis of the programme's performance**. In particular, user satisfaction, the achievement of planned learning outcomes, the relevance of teaching content and the feasibility of the programme in terms of workload and organisation are monitored. At the end of each programme, evaluation surveys of participants are carried out and feedback (example in Annex II.4.2.4) is analysed at the level of the programme holder

and the OUK Committee and, where necessary, corrective actions are implemented. Thus, in the programme *Preparatory Course for Freshmen of Undergraduate Studies in the STEM Field* (Annex II.4.2.5), based on the questionnaire, the ratio of classes held live and online has been changed in order to make it easier for new students who are not from Rijeka and have limited time to use the capacity of student accommodation before the very beginning of the academic year (when the programme has already begun). The evaluation of the Lifelong Learning Programme is also included in the internal assessment process of the quality assurance system that the University of Rijeka conducts on its constituents every 3 years (documentation from the last one carried out in Annex I.3.1.13). The Faculty encourages open two-way communication with students, enabling quick adaptation of classes, and the quality of lifelong learning programmes is part of a broader quality assurance system in accordance with European standards.

Processes for the development of new lifelong learning programmes and continuous improvement of the existing ones are clearly defined and involve internal and external stakeholders.

The development and continuous improvement of lifelong learning programmes is carried out at the Faculty according to clear procedures defined **by the Ordinance on Lifelong Learning of the University of Rijeka** (Annex II.4.3.1), as well as the internal procedures of the Faculty (Annex II.4.2.2). These processes include all key phases – from the identification of the need and the design of the programme, through quality evaluation, to approval procedures and regular audits.

The initiative to **launch the programme** comes from a variety of sources: faculty, businessmen, alumni, as well as the University's strategic initiatives. The two programmes currently offered – *Applied Mechanics in Contemporary Engineering Practice* and *Environmental Engineering* – were developed and financially supported as part of the UNIRI CLASS (*Continuous Learning and Academic Staff Support) competition of the* University of Rijeka, aimed at developing quality lifelong learning programmes with an interdisciplinary and innovative approach. The development of the study programme includes the preparation of documentation with an analysis of needs, learning outcomes, ECTS and a performance plan. The proposal is considered by the OUK Committee, and after adoption by the Faculty, the programme goes to the accreditation procedure of the University. With positive reviews and the opinion of the Committee for Lifelong Learning of the University, the final decision on the adoption of the programme is made by the Senate of the University of Rijeka.

Internal stakeholders (teachers, heads of organisational units and the OUK Committee) actively participate in the design of the programme, defining the necessary competencies and evaluating performance. Through cooperation with the Alumni community, construction companies and professional organisations (e.g. HKIG), the contents of the programme are harmonized with the needs of the labour market. Regular thematic lectures and workshops with alumni serve as a platform for testing educational content, and feedback from practice (e.g. through surveys – Annex II.4.3.2) has influenced the development of micro-credentials in areas such as sustainable construction and digital modelling. Testing the needs of the labour market and employers for upskilling is a standard part of the development of lifelong learning programmes (examples given in Annex II.4.3.3). Continuous improvement of the programme is also carried out through the analysis of enrolment, student surveys (an example of a recently conducted one - Annex II.4.3.4) and pass rate, which ensures their quality and relevance for students and the profession.

The key indicators for monitoring the quality of lifelong learning programmes' delivery, as well as methods of collecting and analysing the necessary information, resulting in reports with recommendations for improvement, are defined.

The Faculty applies a systematic approach to monitoring the quality of lifelong learning programmes, which is harmonized with the regulations of the University of Rijeka and integrated into the overall quality assurance system at the Faculty. The basis for defining quality monitoring procedures is **the Ordinance on**

Lifelong Learning of the University of Rijeka (Annex II.4.2.2), which prescribes evaluation and reporting procedures for all accredited programmes. For each lifelong learning programme key quality indicators are defined, and the most important ones include the level of satisfaction of participants (evaluation of content, organisation, expertise of lecturers), compliance of learning outcomes with teaching methods and evaluation, compliance of awarded ECTS credits with the actual workload of participants, availability and quality of resources (materials, space, technical equipment), indicators of completion and success of participants, and relevance of the programme for the labour market and professional implementation.

The evaluation of the programme is carried out after each implementation cycle. Anonymous surveys of participants, in which the clarity and usefulness of the content, the interactivity of teaching, the applicability of the acquired knowledge, organisational support and overall satisfaction with the programme are evaluated, are a key tool in this process. For example, after the implementation of the *Preparatory Course for Freshmen*, an evaluation was conducted in which the participants expressed the need to differentiate the levels of prior knowledge. As a result, additional online preparation materials were created and it was possible to enrol in only one of the three parts of the preparatory course, depending on the prior knowledge. In addition to surveying students, teachers who participate in the implementation of the programme also submit reports on the course of classes, communicate organisational challenges and possible improvements in content. These reports are analysed at the level of the OCC Committee, which makes recommendations for future improvements on this basis. In the case of interdisciplinary programmes – such as *Environmental Engineering* – reporting is carried out through coordination between components and joint evaluations. The reports are presented at the sessions of the Faculty Council, and the main conclusions and recommendations are available to the holders and implementers of the programme, heads of organisational units, the OUK Board and interested associates. The Faculty ensures transparency and involvement of stakeholders in the development of the programme through clearly defined indicators, data collection and implementation of recommendations, and the programmes are constantly improved according to real needs.

Lifelong learning programmes are aligned with the current economic and social needs.

Lifelong learning programs developed and implemented by the Faculty are aimed at responding to the real needs of the labour market, the requirements of modern civil engineering practice and changes in the social context. The Faculty monitors the development of the profession and legislation, communicates with stakeholders from the economy, incorporates feedback from evaluations, and on this basis shapes the content, methodology and goals of its educational offers. The four lifelong learning programmes that the Faculty is currently implementing are designed in direct response to the identified needs of professional development in the civil engineering sector. **The Bridging Programme for Enrolment in the Graduate University Study of Civil Engineering** (Annex II.4.1.1) enables students from professional undergraduate studies to acquire the necessary knowledge and competencies for inclusion in the university graduate study, which responds to the need for greater vertical flexibility in education and opens up opportunities for further academic and professional advancement. **The preparatory course for freshmen** (Annex II.4.1.3) is aimed at equalizing the level of prior knowledge in mathematics and mechanics for students from different secondary school programmes, which contributes to successful inclusion in higher education and reducing dropouts, which is an important social goal. The programme was created because year after year, the teachers of the Faculty noticed significant differences in prior knowledge among first-year undergraduate students, which were conditioned by the high school that students had previously attended and significantly influenced their progress and success in their studies. **The micro-credential Applied Mechanics in Contemporary Engineering Practice** (Annex II.4.1.4), developed through the UNIRI CLASS competition, is a programme that responds to the technological requirements of the market, offering professional training in the use of numerical methods and software tools (Abaqus, Python, MATLAB) in the calculation and modelling of structures. The programme is integrated into the graduate university study of civil engineering

through 4 elective courses in the 2nd semester, and provides students who enrol in it with additional specialized knowledge in basic mechanics applied to modern engineering problems. In addition, it is available to graduated bachelor's and master's engineers in the technical field who want to hone in advanced topics in solid-state mechanics. **The project-oriented interdisciplinary micro-credential Environmental Engineering** (Annex II.4.1.6), **an interdisciplinary programme** developed in cooperation with the Faculty of Engineering and the Faculty of Biotechnology and Drug Development through the UNIRI CLASS competition, responds to the growing need for specialized knowledge in the field of sustainable construction, energy efficiency and circular economy in civil engineering.

The Faculty develops educational programmes in cooperation with economic entities, relevant institutions and members of the profession (including the Alumni Club, HKIG and design companies), relying on proposals collected through meetings, focus groups and consultations, while monitoring regulatory changes, sectoral needs and employment dynamics, thus ensuring that the content is applicable in practice, adapted to vulnerable groups and available to a wide range of participants through flexible, combined forms of performance, which is an important contribution to the objectives of lifelong learning in a knowledge-based society.

III. STUDENT-CENTERED LEARNING AND TEACHING – THE TEACHING PROCESS AND STUDENT SUPPORT

The study programmes of the Faculty of Civil Engineering in Rijeka are designed to encourage the active involvement of students in the teaching process, the development of professional and generic competencies, and enable an individualized approach to learning through various forms of support and modern teaching methods.

III.1 Learning and teaching are student-centred and ensure that all the intended learning outcomes are achieved.

The study programmes, and the way they are delivered, are designed to encourage motivation, self-reflection and engagement of students in the learning process.

The motivation of students is encouraged by bringing the profession closer through **professional practice courses**, organized **field trips** to the construction sites of infrastructure projects (field work plan, Annex II.3.3.5, fieldwork notice, Annex III.1.1.1), solving tasks related to field work (Annex III.1.1.2), writing field reports (Annex III.1.1.3), active participation in **laboratory exercises**, participation in **research and professional projects**, Annex III.1.1.4, participation in **challenges and competitions** (education program in the basics of entrepreneurship and financial literacy-STEPRI, Annex II.1.2.6, Allplan competition, Annex III.1.1.5), and education on the **use of modern tools in engineering practice** (Allplan free workshop, Annex III.1.1.6) and **systematic and continuous support in learning**: **organizing workshops** (on time management, learning techniques and taking one's own responsibility, Annex III.1.1.7, activities of the UNIRI Brine project). **The application of BIM**, **digital simulations and numerical models** in teaching contributes to the modernization of education and increased student engagement (implementation plan of the course Computer Modelling Annex III.1.1.8, Dynamics of Structures, Annex III.1.1.9, examples of final and graduate theses in which **EPANET** is used Annex III.1.1.10, **Urbano Canalis** Annex III.1.1.11, **BIM** Annex III.1.1.12, **GIS** Annex III.1.1.13), and other **digital platforms** that represent a high standard in practice (collaboration platform **Volum3** in the course Project Management (Annex II.1.8.2), computer program **Arhigon** for the preparation of cost estimates in the courses Construction Organization and Construction Economics (Annex III.1.8.5, Annex III.1.1.14). In student surveys, students recognize the advantages of modern tools used in the engineering profession, so teachers are encouraged to introduce and expand their application (comments in surveys, Annex III.1.1.15, Annex III.1.1.16, Annex III.1.1.17, Annex III.1.1.18).

Discussions, seminars and project papers help students to analyse their own ideas and understand their strengths and weaknesses (self-evaluation in the course Roads, Annex III.1.1.19). Independent tasks, such as **seminar papers and program tasks,** enable students to reflect on their own progress and connect theory with practice (implementation plans Annex III.1.1.20, Annex III.1.1.21, analysis of the number and type of examinations, Annex II.3.3.3, Annex II.3.3.4). **Mentoring in** the preparation of final and graduate theses, as well as program tasks, enables students to analyse problems in depth and develop critical thinking (example of the Transport in Cities program, Annex III.1.1.21). Teaching includes **various teaching methods**, such as lectures, **workshops**, **teamwork**, **e-learning**, **flipped classroom**, **project work**, **research work** (examples in the courses Roads, Traffic Technology, Traffic in Cities and Concrete and Asphalt Technology, Annex III.1.1.22), seminars that include **interactive workshops**, application of open source tools. **Use of online resources** (all courses are active and in e-form on Merlin) and **interactive platforms** (platform for virtual internships Career Garden Annex III.1.1.23, **virtual laboratory** for materials on Merlin Annex III.1.1.24, **open source digital tools** for simulations or multi-criteria analyses (Circly in the course Flexible Pavement Structures Annex III.1.1.25, AHP in the course Water Management (Annex III.1.1.26) allows students a more

flexible approach to the material and learning at their own pace (video material from the course Hydraulic Engineering Structures Annex III.1.1.27).

The application of hybrid teaching allows students who are not physically present to follow lectures through digital tools (example of records of held classes, Annex III.1.1.28). Final and graduate theses **in cooperation with companies** enable students to work on real problems in the profession (GraDis, Annex III.1.1.29).

Study programmes enable students to choose between different **modules and elective courses** (from the study programmes of the Faculty or other study programmes of the Faculty and other constituent parts of the University of Rijeka through the Catalogue of Joint Elective Courses of the University of Rijeka, taking into account the level of learning outcomes, Annex III.1.1.30). For the purpose of innovating the university undergraduate study, during the academic year 2022/2023, significant changes were made to the structure and content. The first academic year was relieved by reducing the number of theoretical courses and introducing professional courses. Three mathematical courses have been reduced to two, with a reduction in the total ECTS workload from 21 to 17. The number of hours of active teaching has also been reduced, with a greater emphasis on independent work of students and active participation in teaching, and the share of elective courses in relation to compulsory courses has increased. Field classes are compulsory in most courses of the first year, e.g. Introduction to Civil Engineering, Hydrology, Geology, Constructive Geometry, Engineering Materials, etc. (field plan Annex II.3.3.5, course implementation plan Annex III.1.1.31, report from field classes Annex III.1.1.32), laboratory teaching has been introduced where applicable, the number of ECTS courses for the course Field Teaching has been increased, and AutoCAD has become compulsory in Constructive Geometry (Annex III.1.1.33). It is also planned to introduce BIM through the elective course Computer Programs. **New courses** include Introduction to Civil Engineering and Concrete and Asphalt Technology, which includes laboratory exercises (Annex III.1.1.34). **Topics related to climate change have been integrated into the existing courses**, and an elective course Hydrotechnical Measures for Adaptation to Climate Change has been introduced. In the third year, groups of elective courses that make up **micro-credentials** were introduced, clearly defining the competency profile of students (study program Annex III.1.1.34).

The award motivates successful students for academic success, participation in awarding other institutions, and various competitions and challenges (Annex III.1.1.35, awards and recognitions in 2021/2022, Annex III.1.1.36, 2022/2023, Annex III.1.1.37), challenges EIT Manufacturing Annex III.1.1.38, YUFETHON Annex II.1.2.7, INDUSAC Annex II.1.2.8).

The higher education institution encourages various ways of teaching delivery and flexible usage of various pedagogical methods, in accordance with the intended learning outcomes.

The Faculty provides systematic support to teachers in the application of various teaching methods and tools through financing, organizing and informing models (calls sent to teachers, Annex III.1.2.1, participation in the EUA forum for learning and teaching, Annex III.1.2.2, Decision on co-financing the costs of scientific research and teaching training of employees in 2025, Annex III.1.2.3, list of available computer programs for teaching Annex III.1.2.4). Since the end of the pandemic, the Faculty has been organizing support to teachers in planning, organizing, financing and conducting field classes (field teaching plan, Annex II.3.3.5).

A differentiated approach to teaching allows students to adjust the dynamics of learning according to their abilities and interests (multiple deadlines for submitting program tasks or different ways of submitting (Merlin, e-mail, physical, etc.), example of the course Informatics in Engineering, Annex III.1.2.5). In addition to mandatory teacher consultations, most teachers also provide consultations outside the term by appointment via e-mail or online registration (Annex III.1.2.6). **The combination of formative and**

summative assessment enables students to better understand the acquired knowledge and continuously improve their skills (example of formative assessment in the courses Roads Annex III.1.1.19, Computer Programs Annex III.1.2.7, example of lessons and self-evaluation in the e-course Elements of Buildings Annex III.1.2.8 and self-evaluation after field work Building materials Annex III.1.2.9).

All teaching materials are published and available to students via **the Merlin** platform (Moodle). Direct communication between students and teachers takes place live and through digital communication tools (e-mail, forums, platforms for remote communication and collaboration), which supports ubiquitous learning, as one of the trends in modern education. **Gamification** (prize coupons on the course Installations Annex III.1.2.10), video materials (course Building Materials Annex III.1.2.11), audio lessons (course Applied Geology Annex III.1.2.12), video lessons (course Hydraulic Engineering Structures Annex III.1.2.13), online courses, surveys, online tests, student maps, homework, etc. on Merlin (example of the course Computer Programs Annex III.1.2.14).

The Faculty conducts **a multi-criteria assignment of mentors** in final and graduate theses, taking into account the preferences of students and their success (course implementation plan Annex III.1.2.14, course of *the online* mentor assignment procedure Annex III.1.2.15). It enables the production of final and graduate theses in **companies**, using **laboratory and field measurements**. **The acquisition of professional competencies** at the study is possible through **professional practice courses**, **virtual professional practice**, lectures by **experts** and solving **project tasks** in courses. Highly motivated students can perform part of the course obligations by participating in **professional and scientific research projects** (Annex III.1.1.4).

During the pandemic, the **organization of teaching and the adaptation of teaching methods and technologies** were at a high level. This is evidenced by the recording **of a constant increase in student satisfaction** from 2020 onwards (UNIRI analysis of student satisfaction in 2023/2024. Annex III.1.2.5). Classes were organized in a hybrid way (a week of online lectures, a week of live exercises), Zoom educational licenses were provided, which were equivalent to virtual classrooms, teachers were provided with instructions and support in the use of tools for distance learning, a protocol related to epidemiological protection and control of isolation was provided (information related to the way of organizing and adapting classes and support Annex III.1.2.6). During the three post-pandemic years (2021 – 2023), due to the need of many students for independent financing and work outside their place of residence and study, part-time classes were organized in a hybrid way (60% live and 40% online synchronously or asynchronously), based on the Regulations on Studies (Art. 7) (organization of classes Annex III.1.2.7).

The use of different pedagogical methods and techniques fosters interactive and research-based learning, problem solving, and creative and critical thinking.

In accordance with the content of their course, each teacher independently chooses the teaching methods that best suit the material and the intended learning outcomes, applying the student-centred learning principle, i.e. focusing on the student and his needs. This includes: **interactive lectures** with discussions and the application of concrete construction examples, **project-based learning** through complex engineering tasks and work on interdisciplinary projects, **field classes and professional visits to construction sites, laboratories** and infrastructure facilities, **the use of advanced digital tools** in construction (CAD technology, GIS, LIDAR, SCIA), **a combination of classical and modern teaching methods**, including the use **of flipped classroom** and **problem-based learning (PBL), as well as team-based learning**, guest **lectures by practitioners** (economy) and hybrid forms of teaching (Annex III.1.3.1), extracurricular activities (Annex III.1.3.2) and consultations (Annex III.1.3.3).

Field teaching most often includes preliminary preparation of students, solving specific tasks, analysis of real situations (role play) and application of knowledge in real conditions, which encourages **active learning,**

critical thinking and development of professional skills (example of the course Construction Organization, Annex III.1.3.4, an example of active field teaching in the course Engineering Mechanics of Rocks, Annex III.1.3.5, notice to students on the field classes schedule, Annex III.1.3.6, Annex III.1.3.7, Annex III.1.3.8., a study trip to the construction site of the Pelješac Bridge Annex III.1.3.9).

The Faculty organizes **professional visits to construction companies and institutions** in order for students to gain insight into the real challenges of the construction profession, as well as **lectures by visiting experts** (examples of visits within field classes, Annex II.3.3.5, records of lectures held, Annex II.1.2.2). Practical **exercises in laboratories** enable students to experiment and research new construction technologies (examples of implementation plans Annex III.1.3.10, Annex III.1.3.11, Annex III.1.3.12, Annex III.1.3.13). Interactive **forms of teaching are also used,** such as **digital simulations, team projects and presentations, exploratory learning, work-based learning, thematic discussions, flipped classrooms,** etc. (records of introduced methods Annex III.1.3.14, example of the courses Engineering Rock Mechanics and Geology Annex III.1.3.15), **descriptive, graphical and mathematical methods**: application of numerical models and analyses in construction courses, computer modelling, programming (courses Computer Modelling and Dynamics of Structures Annex III.1.3.16, Annex III.1.3.17, Steel Structures Annex III.1.3.18), **statistical methods for data processing** (example of the course Probability and Statistics), independent research work on the course Waste Management Annex III.1.3.19). **Project assignments and group work** further encourage the development of creative and critical thinking. Students create **their own construction projects**, analyse them through different **application scenarios** (an example of a program from the course Bridges, Earthquake Engineering, Traffic Engineering, Engineering Hydrology, Computer Programs, Computer Programs, an independent assignment in the course Roads. Through **interactive workshops**, students analyse real **construction or interdisciplinary challenges** (Build as an Entrepreneur Annex III.1.3.20, EIT Manufacturing challenge). Students work with advanced **construction software** such as **BIM**, AutoCAD, Revit and SAP2000, Volum3, Arhigon, Vissim, Circly, Urbano Canalis, Rocscience, etc. (example of graduate theses Annex III.1.3.21, Annex III.1.3.22, Annex III.1.3.23).

The various methods of teaching delivery, pedagogical methods, and techniques of working with students are regularly evaluated and adjusted according to evaluation results.

The evaluation of the effectiveness of teaching methods is carried out through regular analyses of student surveys, analyses of student passing and performance, as well as self-reflection, and during collaborative teacher assessments.

The results of student surveys are analysed at chair meetings and suggestions for improvements are made. After that, the results are discussed at the OiUK Committee, where specific guidelines and recommendations for the improvement of teaching are adopted (Committee reports Annex III.1.4.1). At the monthly meetings of the **Office for Students**, student representatives present their views on the elements of the teaching process, and they are checked with teachers, evidence and arguments are collected, and adjustments are considered and agreed. In courses with lower pass rates, additional measures are taken to support students, including the organisation of student-to-student tutorials, additional and group consultations and, where appropriate, special forms of support such as peer learning courses. Such activities are aimed at early recognition of difficulties and active support for learning (Autocad course Annex III.1.4.2, demonstrations Annex III.1.4.3, consultations Annex III.1.4.4).

At the end of the academic year, an **analysis of student performance** and adaptation of teaching methods are carried out in order to ensure greater student engagement and better results (Annex III.1.4.5). In the first years of undergraduate studies, a performance analysis is carried out during and at the end of the semester (example of the course Mathematics 1 in the academic year 2009). 2023/2024 Annex III.1.4.6, analysis of the performance of first-year students Annex III.1.4.7). Based on the analysis of the pass rate and

completion of students in part-time studies during the last two academic years, in the academic year As. In 2024/2025, the share of in-person classes increased from 30% to 50%.

The Faculty additionally encourages teachers to **pedagogical training and education** – by organizing, informing, nominating and financing (*Build your Career Garden Learning and Teaching event* Annex III.1.4.8) and exchanging good practice through thematic workshops, counselling and internal meetings (meetings *In preparation for the semester* Annex III.1.4.9, meeting with doctoral teachers Annex III.1.4.10). In this way, teaching is continuously adapted to the needs and profiles of students, which further strengthens the quality of the teaching process and ensures the achievement of educational goals and learning outcomes.

The OUK recommends that teachers present the results of student surveys in the introductory lesson of the course, with an emphasis on the elements of teaching that have been retained or adapted based on student proposals. This encourages open communication and evaluates students' contribution to the improvement of teaching (example in the courses Roads Annex III.1.4.11 and Geology Annex III.1.4.12).

Collaborative assessment is an important element of evaluation prescribed as part of the promotion procedure to a higher position, and more often if necessary, and according to the recommendations in the last re-accreditation procedure, double assessment is also carried out, first as a pilot project and now as part of the collaborative assessment (procedure, report and examples of double assessment Annex III.4.1.13).

Teachers regularly carry out the processes of revision of their own teaching practice to continuously improve the educational process.

Based on the recommendations of the OUK Committee, each teacher conducts self-reflection every year at the beginning of the semester based on student surveys, and implements changes that are justified and feasible. In the introductory lesson of the course, teachers review the surveys in front of students and explain which changes have been made based on justified comments from students, and which are not justified or implementable (Board minutes Annex III.1.5.1, invitation to teachers Annex III.1.5.2, review sample Annex III.1.1.11)

The Manual for Quality Assurance of the Faculty defines the procedure for evaluating the results of institutional research on the quality of teaching work which is carried out by the OUK Committee. An integral part of the procedure is **the collaborative assessment**, and based on the conducted procedure, the OUK Committee, at the request of the teacher, issues an appropriate certificate. This is in accordance with the Decision of the Rectors' Council on the necessary conditions for the evaluation of teaching and scientific-professional activities in the procedures for election to scientific-teaching titles (OG 122/2017 and OG 120/2021). The process of institutional research on the quality of teaching work includes the implementation and analysis of the evaluation of teachers' work by students, the implementation and analysis of collaborative assessment and, based on the previous and the evaluation of the results of the institutional research on the quality of teaching work. The OUK Committee analyses all collaborative assessments carried out in October for the previous academic year. Based on the results of peer reviews and student surveys, the Board may propose additional assessments for individual teachers (example Annex III.1.5.3), including the appointment of observers. In cases of repeated lower results, the Vice-Deans responsible for teaching, students and quality are included in the assessment (example Annex III.1.5.4).

In 2021, the Committee for Online Learning of the University of Rijeka adopted the Framework for the Development and Assessment of the Quality of e-Courses which defines the procedure, criteria and categories and guidelines for evaluation, as well as the form for self-evaluation of e-courses. Self-evaluation is carried out every academic year. Through this process, teachers assess the level of development of e-courses according to defined guidelines (workshop *How to assess the quality of your e-course?* (Annex

III.1.5.5)). Given that self-evaluation is not mandatory, and the Faculty wants to encourage it, it is included in the criteria for rewarding teaching excellence. The results of the self-evaluation (Annex III.1.5.6) are delivered to teachers for inspection (Annex III.1.5.7).

The methods of teaching delivery are adjusted to a diverse student population (non-traditional student population, part-time students, senior students, students from under-represented and vulnerable** groups, etc.).*

Teaching materials for all courses are regularly published on **e-courses on Merlin**, which ensures **that the content is available** to students at all times. For students who study while working, **more flexible forms of teaching** monitoring and fulfilling obligations (adjusted hourly rate, hybrid teaching) are provided, including **consultative classes**, ***online* consultations** and **an individualized approach** to evaluation. This practice is especially important for **part-time students and senior students**. Since the launch of part-time studies, classes have been organized in **an adjusted hourly rate** in the amount of 50%, on weekdays in the afternoon. During the pandemic, classes were organized ***online***, and when circumstances allowed**, hybrid, in order to ensure the presence of students in class and contact with teachers, but also the health care of students and teachers within epidemiological measures (**Annex III.1.6.1, Annex III.1.2.6).

Through the **UNIRI Cares project**, the Faculty actively participates in strengthening **psychosocial support to students** through workshops on time management, learning and taking responsibility for one's own progress (workshops Annex III.1.6.2). Also, through the activities of the Office for Support to Vulnerable and Underrepresented Groups, individual adaptation of teaching **for students with disabilities, difficulties that are directly related to learning and advancement in studies, chronic diseases or other personal circumstances is enabled**. Adaptation is made on the basis of the decision of the University Office for Students with Disabilities or in cooperation with it (records of adjustments for students Annex III.1.6.3, individual adjustments, Annex III.1.6.4, reports on the work of the Office Annex III.1.6.5). Teachers include digital tools and innovative teaching methods to encourage the active involvement of all students (video materials, virtual internships, Coursera courses, etc.). Whenever possible, sizes of groups for teaching formed in accordance with the Collective Agreement for Science and Higher Education (Official Gazette 9/2019). This gives the possibility of an individual approach and easier inclusion of all students, especially those with increased educational needs (records of the type of exercises and the number of students in groups are kept in Annex III.1.6.6).

The higher education institution ensures the use of state-of-the-art technologies to modernise teaching and achievement of the intended learning outcomes.

The Faculty has an organized system of procurement, financing and installation of basic to modern engineering computer tools in computer labs and faculty computers (Annex III.1.2.4). Licenses for many technologies and tools are secured by contracts of the relevant Ministry, University or Faculty with distributors. For the purpose of teaching and all other activities for students and teachers, the Faculty has equipped 3 computer classrooms, in which, according to the expressed needs of teachers, the necessary licensed computer programs are installed, and students have access to information on access to **student licenses for personal computers**. Whenever possible, teachers also use **free computer programs** in teaching (Phyton, EPA-net, etc.). Technologies and tools that are the result of scientific research work within projects (GIS and LiDAR technology in the courses Geohazards Annex III.1.7.1, and Slope Stability Annex III.1.7.2, and graduate theses Annex III.1.7.3) are also applied in the teaching, which enables students to work on simulations of complex building systems and models while encouraging an interdisciplinary approach and creative problem solving. In addition, the Faculty uses cloud work through Google Drive and Office 365 environments, which enable easy collaboration and exchange of teaching materials, joint work on documents, communication and organization of student teams, as well as communication between teachers

and students. For the purposes of online classes and consultations, institutional Zoom licenses are available, and all students and teachers use the Merlin (Moodle) system for e-learning, which enables the publication of materials, online examinations, discussions and communication. The faculty also uses tools for academic integrity and writing support such as Turnitin to check the similarity of papers and InstaText to improve the quality of written content, which further develops students' academic and communication skills. Within the Erasmus+ project The Career Garden, a platform for virtual and hybrid internships was developed which enabled students to gain practical experience in an international environment, and within the UNIRI Class A2 project – Digital Citizenship – Innovations in Learning and Teaching, a virtual laboratory for materials was developed (example Annex III.1.1.23). Within the Erasmus+ project XRGREEN. CON teaching materials on sustainable construction using augmented reality are developed.

III.2 The assessment and evaluation are objective and consistent, and they ensure that all the intended learning outcomes are achieved.

The criteria and methods of assessment and evaluation are clear and they are published before the beginning of each course. Students are familiar with them.

The method of monitoring and evaluating student work for all courses is defined in **the study programs** published on the website, and students are familiar with them on the first day of the academic year in the first year of study (presentation for freshmen Annex I.4.2.1). The dates of exams and partial exams are created and coordinated at the beginning of the semester (exams at the beginning of the academic year), communicated with student representatives, and published on the website in a shared calendar, a system for recording class schedules (Sceduly), and Studomat. The criteria and methods of assessment during classes and final exams, as well as the evaluation of final and graduate theses, are regulated by the Ordinance on the Evaluation and Evaluation of Students. Detailed criteria and methods of evaluation and assessment are presented for each course in **the detailed implementation plan of teaching** in the table of constructive alignment and are a mandatory part of the implementation plan. Special notes are often highlighted, such as: individual or group mode of work, deadlines, the possibility of correcting activities, additional points, etc. (example of an implementation plan Annex II.1.1.15, Annex III.2.1.1). Teachers inform about the criteria and methods of evaluation both in the introductory lesson and through Merlin (example of the introductory lesson, Annex III.2.1.2). On the exam sheets and partial exams, the criteria for scoring and grading (examples of exam tasks) are highlighted, and on Merlin, the criteria for evaluating other activities in the course are highlighted in advance (program tasks Annex III.2.1.3, laboratory reports Annex III.2.1.4. If there are changes in the dates of the examinations, they are communicated in time through student representatives and published through the course website on Merlin.

The criteria and methods of assessment and evaluation are aligned with the teaching methods and intended learning outcomes. They are being implemented in a consistent and objective manner. Mechanisms are in place to ensure that the assessments and evaluations are objective and reliable.

Compliance is systematically ensured through a **constructive alignment** table, which is an integral part of the detailed curriculum of each course (Annex II.1.1.15). The table clearly indicates: expected learning outcomes, appropriate teaching methods, activities to be evaluated, scoring methods, and the minimum and maximum number of points per activity. The objectivity and reliability of evaluation is ensured through the following mechanisms: clearly defined criteria and point thresholds, the use of standardized forms for the evaluation of seminar, program and project tasks, the involvement of several teachers or associates in the assessment process where applicable, the implementation of knowledge tests that cover all levels of the cognitive process according to Bloom's taxonomy, the obligatory possibility of insight into exams and partial exams with explanations of grades, obligatory presence of other teachers and/or students during

the oral examination, systematic keeping of records of students' progress through the Merlin and ISVU systems, use of the JMBAG number in evaluation and assessment (examples of individual assessment through Merlin Annex III.2.2.1, Annex III.2.2.2) or in active tables Annex III.2.2.3, Annex III.2.2.4, Annex III.2.2.5). Through the established procedures prescribed by the Quality Manual: performance analyses and analyses of student surveys, collaborative assessment and double assessment in all courses that have two contractors, the need for adjustments is identified. The Ordinance on the Evaluation and Evaluation of Students' Work prescribes the obligations, deadlines and manner of publishing the results of the evaluation, insight into the exam and other knowledge tests, and the procedure for appealing the grade at the exam and continuous knowledge tests. The double assessment procedure implies an independent evaluation of student work by two teachers, and is carried out by a comparative analysis of grades, joint insight into the work and agreement on the final grade, especially in the context of final and graduate theses or collaborative assessment of teaching work (Annex I.5.1.1, Annex II.1.4.5, Annex III.2.2.6, Annex III.4.1.13).

Everyone who evaluates students is supported in developing their knowledge and skills related to the methods of assessment and evaluation.

The Faculty continuously invests in **strengthening pedagogical competencies** through structured education, internal workshops, mentoring systems and available guidelines. As part of the development of teaching competencies, trainings such as the accredited short program ***From Outcome to Evaluation*** were organized in cooperation with the Centre for Teacher Education FFRI (Annex II.1.15). A cycle of three workshops for the implementation of study programs in **the PROVIS system** was also held (Annex III.2.3.1), and teachers were regularly informed about webinars within the **PROFFORMANCE project** (Annex III.2.3.2) and other trainings (Annex III.2.3.3). In its own organization, the Faculty held a three-day program on learning and teaching *Build Your Career Garden*, within which workshops on evaluation and assessment were held, such as: *The importance of knowledge assessment in online learning*, *Presentation of online learning platforms Digital Competences for Educators - A European framework for Green & Inclusive VET, What learning outcomes students can expect after completing the learning module.*

The Faculty has established a system of financial support that enables teachers **to co-finance education** in the field **of teaching competencies and tools** (Annex III.1.2.3). Teachers are instructed to use the Guidelines for the Evaluation of Learning Outcomes of the University of Rijeka. The Faculty regularly organizes trainings and workshops on modern forms of evaluation, including formative approaches, team assessment, digital evaluation and evaluation based on e-portfolios (examples of calls addressed to teachers are Annex III.1.2.1). According to the records of teacher education, since 2020, about 100 different trainings have been conducted, in total teachers have undergone about 220 trainings, and about 40 teachers have participated in at least one (Annex II.1.1.4).

The assessment allows students to demonstrate the extent to which they have achieved the intended learning outcomes.

At the Faculty, student evaluation is systematically based on **clearly defined learning outcomes** of individual courses which are determined by implementation plans and study programmes (Annex III.2.4.1, Annex III.2.4.2). Evaluation is carried out using various methods that allow students to show the level of achievement of individual outcomes, from basic knowledge to more complex analytical and practical competencies. Through **evaluation methods** such as partial exams, written and oral exams, online tests, seminar papers, project assignments, presentations, laboratory exercises and practical work, students get the opportunity to show different aspects of their knowledge and skills. This approach provides a detailed and objective insight into **the individual level of achievement of learning outcomes**, where students receive clear feedback on their progress and guidelines for further improvement (insight Annex III.2.4.4, consultations Annex III.2.4.3). Detailed **evaluation criteria, methods and score scales** for all activities on the course are clearly defined in advance and communicated to students in the introductory class of each course

(Annex III.2.4.5, Annex III.2.4.6), through performance plans and the Merlin system. This ensures transparency in the assessment process, and students are familiar with expectations and have the opportunity to monitor their progress independently. The systematic use **of constructive alignment tables** in performance plans contributes to the clarity of the link between learning outcomes, teaching methods and assessment activities, which allows students to fully understand the purpose of the tasks and actively manage their learning process.

The students are given feedback on the assessment results, and if necessary, the guidelines and/or support in the process of learning based on these evaluations.

Students regularly receive feedback on the results of the evaluation within 5 working days for all activities to be evaluated, thus ensuring continuity of work and effective participation in subsequent teaching activities. **Feedback** includes: written comments on the solutions of programme tasks (Annex III.2.5.1, Annex III.2.5.2, Annex III.2.5.3), oral insight into partial exams and exams (Annex III.2.5.4), points earned on activities (Annex III.2.5.5, Annex III.2.5.6). **Support in the learning process** includes: insight into partial exams and exams Annex III.2.5.7, problem solutions, consultations, demonstrations, organized courses (example of Autocad course Annex III.1.4.2) or *online* courses (Annex III.2.5.8). The Ordinance on Studies defines **the mandatory time limits** for the publication of evaluation results (5 working days), and the Ordinance on the Evaluation and Evaluation of Students' Work defines the deadlines and the procedure for appealing the grade. Additional oral evaluations are often carried out, if the teacher deems it necessary.

The process of continuous assessment and monitoring of student achievements helps to identify students who are experiencing difficulties in the regular meeting of their academic obligations and to provide them with timely support and assistance in learning.

Continuous evaluation through partial exams, seminar assignments, presentations, active participation in classes enables teachers to identify students with disabilities in a timely manner and provide additional support through consultations, additional materials or deadlines for individual activities. At the institutional level, pass rate and performance analyses are carried out, which identifies courses and groups of students in need of targeted measures, such as workshops (Annex III.2.6.1, Annex III.2.6.2), work in small groups or peer assistance (student-mentors Annex III.2.6.3). The Support Office for Vulnerable and Underrepresented Students in cooperation with SSC offers individual support in the form of interviews and counselling and ensuring the adaptation of the academic environment and teaching processes (examples of solutions on SSC academic adaptation, student inquiries). The most common types of adaptation are extended time for writing written examinations for students with disabilities or some diagnosed issues that directly or indirectly affect progress in the study, then justified absence from classes of more than 30% with the possibility of additional consultations for students with chronic diseases or convalescents, flexibility in tolerating absences from classes and deadlines for performing activities that are evaluated for student parents, single parents, parents of underage children who provide care for them on their own and students who are guardians, as well as for pregnant students. Additional accommodation is provided for students – categorized athletes due to intensive preparations and participation in competitions. The Office for Support of Vulnerable and Underrepresented Students regularly, at the beginning of each semester, invites students to contact them in case of difficulties and need for support, and surveys students once a year. The number of registered students who have requested an adjustment is increasing every year, starting from 1-2 in 2020 to 10 students in the academic year 2023/2024 and 16 students in the academic year 2024/2025, 4 of whom with an adjustment decision, 8 student parents, 2 students with health problems and 3 student athletes (records Annex III.1.6.3, Office report Annex III.1.6.5, sample of a decision Annex III.2.6.4).

There is a formally defined appeals procedure which is consistently implemented and students are informed about it in a timely manner.

Appeal procedures are prescribed by special regulations, and students are introduced to them at the beginning of their studies, through student information materials, during classes, as well as through the faculty website and information system. The Ordinance on the Evaluation and Evaluation of Students' Work prescribes the right to file an appeal of the grade for the written part of the exam, as well as to the objection to grades for continuous evaluation (Article 8). Article 20 of the Study Regulations prescribes the applicant's right to object in the classification procedure. The Ordinance on the Doctoral Study of Civil Engineering defines the right of doctoral students to comments related to evaluation and reporting, with a clearly prescribed procedure. All these regulations represent a systematic basis for the protection of student rights, and the appeal procedure itself is carried out consistently and with regular records within the administrative and academic documentation. Students were informed about the procedures in a timely and repeated manner (introductory information for freshmen, website, Office of Student Affairs, student responses to individual inquiries, etc.), and the two recorded cases of appeal were carried out in accordance with the prescribed procedure by consistently applying all steps in accordance with the applicable regulations (an example of the procedure for complaints is Annex III.2.7.1).

Procedures of assessment consider the specific circumstances of studying for particular groups of students (adaptation of test procedures, e.g. for students with disabilities), while ensuring that the intended learning outcomes are being achieved.

The Faculty provides adjustments in teaching activities and examination procedures for students with disabilities, long-term health problems, student athletes and students with parental obligations, in accordance with the applicable regulations, the Ordinance on Studies of the Faculty of Civil Engineering in Rijeka (Article 11), the Ordinance on Studies and Studies at the University of Rijeka (Article 12)., the Ordinance on the Study of Students of Categorized Athletes and Student Athletes at the University of Rijeka, and the recommendations and individual solutions of the SSC. Adjustments can relate to extended exam writing time, the way the exam is taken (e.g. oral instead of written), ensuring physical accessibility to the premises, as well as support in the form of additional mentoring or the use of assistive technology. Each such request is considered individually, in consultation with the competent teachers and advisors, and the final adjustment is carried out in such a way that the learning outcomes of the course and the study program are still undoubtedly achieved. Adjustments are recorded and made known to all teachers (notice to teachers Annex III.2.8.1, records of adjustments, example of implementation of adaptation).

The higher education institution has a system of assessment and evaluation in place, which provides information on study progress and completion of studies at an individual and group level, which presents the basis for decision-making on management of the study.

The Faculty applies a systematic approach to assessment and evaluation that enables detailed monitoring of student progress throughout the study. Data on achieved results are continuously recorded at the individual and group level through the ISVU information system and the Merlin system, which enables regular analysis of pass rate, success in achieving learning outcomes and study completion rates. By analysing the success of studying at the level of studies and academic years, and the success of students at the level of courses together with the analysis of the results of student surveys, the OUK Committee identifies areas for improvement, identifies courses with challenges in achieving learning outcomes and proposes curriculum adjustments, revision of teaching methods and planning of enrolment quotas (performance analyses Annex III.1.4.5, amendment of enrolment quotas Annex III.2.9.1).

If possible, the higher education institution conducts the evaluation of assessment.

Based on the recommendations in the report of the expert committee on re-accreditationand the Faculty from 2019, double assessment was introduced and carried out in the previous academic year as a pilot project in selected courses of all chairs and departments without chairs, in a total of 40 courses (procedure,

plan and reports on the conducted double assessment). After the successful implementation of the pilot project, the double assessment procedure was adopted by the Board and the Faculty Council within the Quality Manual as part of the collaborative assessment, and within the Ordinance for the Evaluation and Evaluation of Students' Work as part of the evaluation procedure for final and graduate theses (Annex III.2.2.6, Annex I.5.1.1, Annex II.1.4.5). The aim of the double assessment procedure is to improve the objectivity of assessment, and it is carried out in such a way that the second evaluator evaluates the compliance of the detailed curriculum with the study programme, content, elements, clarity, methods of evaluation and scoring, etc., the content and organization of e-courses, the form and content of knowledge tests and the method of scoring, including the exam, and checks the assessment on a certain percentage of randomly selected exams. The second evaluator evaluates the implementation of evaluation and assessment in the course according to predefined criteria. At the end of the academic year, the results of double assessment are analysed at the session of the OUK Board. Based on the analysis of students' success in final and graduate theses and the observed irresponsible approach of students to them, the method of submission, evaluation and defence of final and graduate theses has been changed by adoption by the Faculty Council within the Ordinance on the Evaluation and Evaluation of Students' Work. The procedure for the preparation of final and graduate theses is elaborated in detail, and students are introduced to it through the website and a short workshop at the beginning of the semester (Annex III.2.10.1). The changes were made in the direction of increasing the responsibility of students in the preparation of the work, the possibility of evaluating various elements of the work for which the need has been demonstrated, and the evaluation of the written part of the work by all members of the committee (example of the evaluation form Annex III.2.10.2). Before the final submission for grading, final or diploma theses are checked through the Turnitin system for the purpose of preventing plagiarism. The OUK Committee has given recommendations that in each course with two holders or associates, a double assessment of exam tasks (clarity, level of outcomes they check, scoring and time needed to solve the tasks), as well as evaluation and assessment are carried out when the need arises.

III.3 The requirements for student enrolment and progress, recognition and certification are clear, publicly available, and consistently applied.

The higher education institution consistently implements predefined and published regulations covering all the study stages.

The procedure for enrolment and advancement in the study and completion of the study is prescribed in the Ordinance on Studies of the Faculty of Civil Engineering in Rijeka, which is harmonized with the ZVOZD. The Ordinance on Studies and the Ordinance on the Evaluation and Evaluation of Students' Work are the main acts that cover all issues related to studies and are consistently implemented. In addition to it, each academic year the **criteria and conditions of enrolment, enrolment quotas, application for enrolment, enrolment and study costs** for the next academic year are adopted. Enrolment quotas and enrolment conditions for the academic year are adopted by February of the previous academic year, applications for enrolment in March, and enrolment and tuition costs in April. Enrolment quotas with all the accompanying documents are regularly and on time (from the entry into force of the ZVOZD no later than May 1) published on the website and on the Become a Student portal.

The detailed method and procedure of enrolment, the required documentation and **the calendar of activities related to enrolment** are defined in the applications for enrolment in the study, which are proposed and discussed within the extended dean's board, the sessions of the Faculty Council before their adoption, and confirmed by the Senate (applications, enrolment conditions and quotas Annex III.2.11.1). Enrolment in studies is carried out through the Central Information System for Enrolment in Higher Education Institutions (NISpVU) with the support **of the Central Application Office**, which ensures multiple

verification of conditions and documentation, as well as consistency and transparency of the implementation of all conditions and criteria related to enrolment.

Diplomas and diploma supplements are issued in accordance with the applicable legislation and the latest standards (ZOK, Ordinance on the form and content of certificates, diplomas and supplementary documents on studies (Official Gazette 74/2023), and the Ordinance on the additional content of certificates, diplomas and supplementary documents on studies and the form and content of the certificate of the University of Rijeka, Decision of the Senate on the recognition of extracurricular activities during which students acquire relevant competencies and the entry of data in the Supplementary Document on Study).

The Statute of the University of Rijeka defines **the functional integration of the Faculty with the University**, and university acts and procedures are also respected and consistently implemented. All information that the Faculty is obliged to publish publicly is available on the website. At all stages of study process and when adopting acts, the provisions of the ZVOZD and the CCA are respected.

The enrolment policy is in line with the national legislative framework, the mission and strategy of the higher education institution and it considers the capacity of the higher education institution and the context in which the higher education institution operates.

The enrolment policy of the Faculty is fully aligned with the national legislative framework and is clearly linked to the mission and Development Strategy of the Faculty for the period 2018 - 2022 and the new Strategy for the period 2024 - 2028, according to which quality education for the purpose of obtaining a qualification, success and completion of students is one of the primary goals. The Faculty has shaped its enrolment policy based on a detailed analysis **of demographic, economic and social challenges**, labour market needs, **recommendations for enrolment policies of** the Croatian Employment Service, as well as internal possibilities and capacities, which is described in the self-evaluation of the sustainability of study programmes (Annex III.3.2.1). Enrolment quotas are determined on the basis of continuous analyses of the labour market, the interests of potential students and an internal assessment of the spatial, personnel and material capacities of the Faculty.

In accordance with the mission of the Faculty, which emphasizes the education of high-quality experts in the field of civil engineering, special attention is paid to **continuous monitoring of the effectiveness** of studies and completion at the undergraduate and graduate level. In-depth analyses of student performance have been carried out, which have led to concrete improvement measures, such as **the modernisation of study programmes**, the introduction of **micro-credentials**, the reduction of the burden of face-to-face teaching and the application **of innovative teaching methods.**

Furthermore, the Faculty actively worked on increasing the enrolment quotas at the undergraduate level, taking into account the realistic possibilities of occupancy, based on the analysis of enrolment and completion of previous generations of students (Annex III.3.2.1). Also, the Faculty is continuously improving its offer of study programs in order to better meet the needs of the labour market and the expectations of future students. By including experts from the economy in the teaching process, as well as by increasing the number of diploma theses that are made in cooperation with economic entities, the attractiveness of studying is further encouraged**. Enrolment quotas, which were reduced in a short period of low enrolment (2019 - 2021), were again gradually increased in accordance with the possibilities and increased needs and interest after the earthquake (2022 - 2025). A total increase of 35% was achieved, with an occupancy rate of 96% (overview of enrolment quotas and enrolment Annex** III.3.2.2). In the 2023/2024 academic year, a total of 801 students were enrolled at the Faculty, of whom 641 were full-time and 160 part-time (Table 3.1).

The enrolment policy and the strategy to attract students are sensitive to the needs and difficulties of students from vulnerable and under-represented groups, and they both promote inclusion.

The enrolment policy of the Faculty is also sensitive to **the social dimension of higher education**. Specific measures target **vulnerable groups of students**, such as **students from earthquake-stricken areas** and **students with disabilities**, promoting **inclusiveness and equity** in higher education. This commitment is manifested through various measures and decisions that facilitate access to education for students from these groups. According to the Decision on the amount of tuition fees, the right of students to subsidize tuition costs and on the criteria and conditions of student participation in tuition costs in the academic year 2024/2025 (Annex III.3.3.1), the Faculty provides full tuition fee subsidies from the state budget for certain categories of students. This includes members **of the Croatian national minority and the Croatian diaspora,** as well as students who have been **granted temporary protection**, such as displaced persons from Ukraine, who study under the same conditions as Croatian citizens. The Faculty recognizes the specific needs of **a vulnerable group of students, students who come from earthquake-stricken areas**, enabling them to be exempt from paying tuition fees, i.e. they are entitled to a full tuition subsidy from the state budget, provided that they have earned at least 30 ECTS credits in the previous academic year.

Quotas **have been provided** for the enrolment of students in **extraordinary status**, **foreign students**, **older students**, and the so-called **Croats from the Diaspora** (enrolment quotas Annex III.3.3.2). By doing so, the Faculty systematically promotes **inclusiveness** by contributing to the creation **of equal opportunities for access to higher education** and confirms its commitment to the continuous improvement of the quality of education and the sustainability of study programs.

Students with disabilities who have at least 60% impairment of the body or at least the third degree of impairment of functional abilities are entitled to a tuition subsidy in full from the state budget if they have acquired at least 30 ECTS credits in the previous academic year, and from the academic year 2024/2025 onwards they have to meet the condition of having the status of a full-time student.

The University of Rijeka, in addition to rewarding excellent students through **scholarships for excellence**, offers various forms of scholarships and financial aid in order to provide students from vulnerable and underrepresented groups, especially those with poor socio-economic status, with support that enables them to participate equally in the educational process. ***Alexander Abramov Fund***. The goal of the Fund is to provide **financial support to students of lower socio-economic status** through various forms of assistance, including scholarships for living expenses, tuition fees, and the purchase of computers and disability aids. The Faculty monitors and publishes information on the website of the Aleksandar Abramov Fund of the University of Rijeka.

The criteria and procedures for the selection and enrolment of students prevent discrimination and bias. They are publicly available, consistently applied and thoroughly revised.

In order to ensure the availability of information in one place and the equality and transparency of the enrolment application process, applications for enrolment and ranking of students are made through the Central Application Office under the jurisdiction of the Agency for Science and Higher Education (ASHE), under the auspices of the Ministry of Science and Youth Education, i.e. the National Information System for Higher Education Institutions Application System (NISpVU), i.e. the Become a Student portal. After adoption and public announcement on the website, enrolment quotas and enrolment conditions are integrated into the NISpVU in order to be visible to candidates. During the period of applications for studies, the status of applications is continuously monitored, and the Faculty has no possibility of altering the data. After the deadline for applications, the ranking list of candidates is formed and submitted by the NISpVU system. The faculty has access to the data on candidates which are important for qualifying for the enrolment procedure, but has no influence on the formation of the ranking list, except in terms of controlling whether the list is

formed according to the submitted criteria. The criteria for enrolment in doctoral studies are defined by the Regulations on Doctoral Studies, which explains in detail and transparently the selection procedure for candidates in Annex D. Detailed results of the enrolment competition are published publicly on the Faculty website.

The criteria and procedures for the selection and enrolment of students ensures the selection of candidates with appropriate prior knowledge, in line with requirements of the study programme.

In order for students to be able to acquire the learning outcomes of a large number of courses, a higher level of prior knowledge in mathematics is necessary, and a certain level of knowledge in physics and computer science is also desirable. Students with a completed four-year secondary education, usually from a grammar school or technical school specializing in construction or architectural technology, are eligible to enrol in undergraduate studies, though students from other secondary schools may also be accepted. Everyone is required to take the state graduation exam in mathematics, Croatian and foreign languages. Over the years, it has been observed that grammar school students have a higher level of knowledge in mathematics, while students from vocational schools have a higher level of knowledge in technical mechanics and geometry. In order to enable students of secondary vocational schools to continue their education in the direction they have already chosen, enrolment in undergraduate studies requires **a mandatory state graduation exam in mathematics, B level at least**. By analysing the data on enrolled students from previous years, it can be seen that the number of students with the A level of the state graduation exam in mathematics is increasing, reaching about 80%, while this percentage is lower in professional studies. The OUK Board and the Admissions Committee have decided to maintain the B level of the state graduation exam in mathematics in order to avoid lower enrolment due to the mandatory A level, as the experience of other Civil Engineering Faculties in the Republic of Croatia has shown. However, in order to ensure that students with better prior knowledge of mathematics enrol in university undergraduate studies, and to make a difference compared to professional undergraduate studies, in 2023 the Faculty introduced an additional requirement for university undergraduate studies, this being **a minimum grade of very good (4) in mathematics** (Annex III.3.5.1, Annex III.3.5.2,). In addition to the above, in 2020 the condition was amended so that success in competitions in vocational subjects now results in granting direct admission instead of granting additional points for admission (an average of 1 – 2 students per year). For enrolment in doctoral **studies** (art. 6 of the Ordinance), it is necessary to complete a university graduate, integrated, undergraduate or specialist study in civil engineering or related technical/natural science fields, and the average grade must be at least 3.0. The criteria for the selection of candidates include: success in previous studies, evaluation of the thesis and its defence, professional competencies, student awards, recommendations of mentors or scientists, and presentation of the candidate before the Doctoral Study Board.

In order to equalize prior knowledge and ensure equal opportunities for students from different schools, and to provide additional support in acquiring knowledge in courses in the first semester, the preparatory course for freshmen is still carried out. The course has been upgraded and accredited as a lifelong learning program **Preparatory Course for Undergraduate Enrollment in the STEM field**. It is held over two weeks and 3 modules: Mathematics, Geometry and Mechanics. In addition, an **AutoCAD course is organized** for high school students who encounter this computer tool for the first time (Annex III.1.4.2). In order to compensate for competencies, student-to-student tutorials and consultations are organized.

The higher education institution has established adequate procedures for fair recognition of higher education qualifications, study periods and prior learning, including the recognition of non-formal and informal learning, based on:

- *compliance of recognition practices at the higher education institution with the principles of the Lisbon Recognition Convention;*

- *cooperation with other higher education institutions, quality assurance agencies and national ENIC/NARIC offices.*

The procedure for the recognition of foreign higher education qualifications for the purpose of access to the labour market in the Republic of Croatia is carried out by the National ERIC/NARIC Office at the Agency for Science and Higher Education (ASHE). Recognition is based on a comparison of a foreign qualification with an equivalent qualification in the higher education system of the Republic of Croatia, taking into account its level, content and quality. The aim of the procedure is to facilitate the continuation of education or access to the labour market in the Republic of Croatia for persons who have obtained higher education qualifications abroad. When employing candidates who have obtained their qualification abroad, the Faculty adheres to the above procedure. For enrolment in the study of the Faculty, candidates who have acquired a previous qualification outside the Republic of Croatia are obliged to submit an ASHE decision on recognition that clearly states the level of recognized education and the corresponding academic title. Recognition should be made for the purpose of continuing education, as opposed to that issued for the purpose of accessing the labour market. Pursuant to the Act on the Recognition and Evaluation of Foreign Educational Qualifications and the Ordinance on the Recognition of Foreign Educational Qualifications, the Office for Academic Recognition, which is established within the Centre for Quality Assurance and Improvement and Institutional Research of the University of Rijeka, conducts the procedure for the recognition of foreign educational qualifications for the purpose of enrolment in graduate, postgraduate and foreign language studies, automatic recognition, and recognition procedure for periods of education spent abroad at a higher education level. If necessary, the Office cooperates with foreign quality assurance agencies and national ERIC/NARIC offices.

The procedure for the recognition of prior learning at the Faculty is defined by the Ordinance on the Recognition and Evaluation of Prior Learning of the University of Rijeka, and is harmonized with the Guidelines for the Recognition of Prior Learning in the Higher Education System (MZOM). Recognition of previous formal, non-formal certified and non-certified education, as well as informal learning, is carried out. Recognition can be used for enrolment in the Faculty's study programmes, for advancement through the study (horizontal and vertical mobility) or as an option to complete the commenced study. The procedure is carried out by the PVPU Committee, and the recognition consists of 3 key steps: submitting the application with all the necessary supporting documentation, evaluating the previous learning and making a decision within the defined deadlines. The Board decides on recognition, whereby it may carry out additional verification of the acquired learning outcomes through: interviews, written work, practical demonstrations or examinations. After the assessment, the committee adopts a proposal for a Decision, which contains: the number of recognized ECTS credits, a list of courses that are recognized (released), the student's remaining obligations, the explanation of the decision and the instruction on legal remedy. The decision is signed by the head of the constituent unit (dean of the faculty) (example of the decision Annex III.3.6.1).

The recognition procedure is based on the assessment of the compatibility of learning outcomes acquired at other institutions with the programme outcomes of the home study programme. If the recognition process detects acquired learning outcomes that are compatible with the outcomes of the study program, but are smaller in scope than the volume of a course and cannot be relieved of the student from taking the entire course, then the student is referred to the course holder for the purpose of determining the partial recognition of learning outcomes. In this case, the student's teacher may release the student from part of the obligations in the course that evaluate the learning outcomes that the student has already acquired (example Annex III.3.6.2). Recognized courses or modules are recorded in the ISVU system, and the student is exempt from attending and taking exams from these courses. Information on recognised learning outcomes is provided in the Diploma Supplement (examples Annex III.3.6.3, Annex III.3.64). The share of

recognised ECTS without recognition in mobility in the total amount of ECTS acquired, as well as the number of recognitions, has been continuously increasing from 1% in 2021 to almost 6% in 2023 (analysis and graphic representation of the type and number of recognition and personalised approach in general).

Over the period of the previous 5 years, the Commission for the Recognition of Prior Learning has conducted more than 100 procedures for the recognition of formal, non-formal certified and informal learning, of which 50 in 2023 alone (examples of minutes of the Committee on Recognition and Transitions, examples of recognition decisions).

The higher education institution monitors and analyses students' progression, and ensures study continuity and completion.

The Faculty Development Strategy 2024 – 2028 defines the monitoring and improvement of student completion and success as one of the strategic goals, where the goal is that 25% of students shall enrol in a higher year of study. The success of students is monitored in several ways and levels. An analysis of success in secondary education and at the state graduation exam is carried out in correlation with success during studies, with the aim of recognizing insufficient prior knowledge of students in order to improve the preparatory course for freshmen and possible adjustment of enrolment conditions in order to select successful candidates.

After enrolment, students are monitored during the winter semester, at the end of which the number of earned ECTS credits is analysed. Based on the results, workshops on time management and learning techniques are organized in cooperation with the SSC if necessary (performance analysis of the first years of undergraduate studies Annex III.3.7.1, performance analysis Annex III.3.7.2, workshop report Annex III.3.7.3). In courses that are a prerequisite for higher year courses, and are characterized by a lower pass rate, success is monitored already at the first partial exams. In case of unsatisfactory results, additional measures are taken, such as consultations or additional teaching hours. Thus, for example, in the case of the course Mathematics (9 ECTS), after an extremely low pass rate at the first partial exam, the Dean, based on the initiative of the OUK Board, initiated a collaborative assessment by an independent teacher (Annex III.3.7.4). The collaborative assessment also resulted in a proposal to change the composition of the partial exam for better alignment with the desired learning outcomes. This experience also prompted a revision of the alignment of learning outcomes between the Mathematics course and the senior year courses, using a "top-to-bottom" approach.

At the end of each academic year, the success of studying in all academic years is analysed, including the number of ECTS credits earned, the proportion of students who meet the requirements for enrolment in the next year, average grades, success in final exams and the relationship between attendance at classes and passing rate. The results of studies are also compared with the success at the state graduation exam (analyses from 2019/2020 to 2022/2023. Annex III.3.7.5, Annex III.3.7.6, Annex III.3.7.7, Annex III.3.7.8). Based on these analyses, the OUK Committee adopts measures for improvement, such as the introduction of a system of teachers-advisors and student-mentors, the accreditation of the preparatory course for freshmen, the adjustment of the prerequisites for enrolment in the course and the introduction *of a week without classes* for the preparation of colloquiums and exams.

Some of the candidates, who have not enrolled in the undergraduate university study due to their expressed affinities or the filling of the quotas, enrol in the professional study and after its completion express a desire to continue their education at the university graduate study. In this context, in 2020, the trial inclusion of 15 such students in graduate university studies with bridging courses was enabled. To support students due to less favourable study conditions, adjustments have been introduced, such as enrolment without passing the prerequisites and tuition fee waiver for students with more than 35 ECTS credits in the first year. In order to ensure horizontal accessibility and eliminate the difficulties recorded in this model, the Bridging

Programme for enrolment in the university graduate study programme Civil Engineering (Annex III.3.7.9) has been accredited for a period of one year and 49 ECTS credits.

Graduation of students is ensured by the prerequisites for enrolment in the course, and preparations for the obligations that await them in the study (workshops within the UNIRI project are taken care of by Annex III.3.7.10, workshops for freshmen by Annex III.3.7.11, organization of workshops for the preparation of final and graduate theses by Annex III.3.712, workshops for doctoral students by Annex III.3.7.13, meetings with alumni and employers, demonstrations and consultations, etc.)

There are established mechanisms which allow the timely identification of students with difficulties in the regular fulfilment of their academic obligations. They are provided with a timely and continuous support and learning assistance.

From 2023, the Ordinance on Studies of the Faculty. (Article 11) recognizes a special category of students with disabilities, which includes students with disabilities or other disorders that may be an obstacle to advancement in the study. At the beginning of each academic year, the Vice-Dean for Education and Student Affairs sends an invitation to all students (Annex III.3.8.1) to contact them if they need adaptation in teaching or the academic environment, based on which a record of adjustments continuously available to teachers is created (notice to teachers Annex III.2.8.1). A detailed procedure is described in the explanation of the indicator *Student support is tailored to a diverse student population (part-time students, senior students, foreign students, students from under-represented and vulnerable groups, students with learning difficulties and disabilities, etc.).*

The higher education institution provides conditions for student mobility in a national and international context.

The Faculty has been promoting, encouraging and actively participating in mobility for many years, in accordance with the Strategy of the University and the Faculty through incoming and outgoing mobility in the national, but predominantly in the international context. The activities and measures to ensure this are: the establishment of the Mobility Office, the appointment of three coordinators and one mobility administrator, the role of the Vice-Dean as an ECTS coordinator, the introduction of a new Vice-Dean for Cooperation, an increase in the number of cooperation agreements with foreign institutions, the organization of an annual Mobility Day, informing through websites, social networks and digital posters, improving the process of counselling students on mobility, recognition of learning outcomes and the duration of professional practice in mobility by adopting and implementing the University **Ordinance on the International Exchange of Students**, Teaching and Non-Teaching Staff within the Erasmus Programme of the University of Rijeka and the Ordinance on the Recognition and Evaluation of Prior Learning of the University of Rijeka, ensuring the offer of courses in English in each academic year, adopting the Dean's Decision on the obligation and conditions of teachers' participation in teaching within the framework of incoming mobility, and the manner of holding and standardizing classes for students in incoming mobility, adopting measures to encourage outgoing mobility (redistribution of part of the teaching within the chair during outgoing mobility of teachers), and generally spreading the culture of mobility, cooperation, networking and good mobility experiences.

The higher education institution issues a diploma and a diploma supplement (in Croatian and English, free of charge) in accordance with the relevant regulations.

Diplomas and supplementary documents on studies are issued in accordance with the applicable legislation and the latest standards (ZOK, Ordinance on the form and content of certificates, diplomas and supplementary documents on studies (Official Gazette 74/2023), and the Ordinance on the additional

content of certificates, diplomas and supplementary documents on studies and the form and content of the certificate of the University of Rijeka, Decision of the Senate on the recognition of extracurricular activities during which students acquire relevant competencies and the entry of data in the Supplementary Document of Study), in digital and printed form in Croatian and English (copies of diplomas, Annex II.1.5.4) free of charge (only the costs of organizing the graduation ceremony are charged)). Supplementary documents contain all relevant information and qualifications, as well as additional information on the recognition of prior learning (formal, non-formal and informal), mobility, extracurricular activities, etc. (copies of supplementary documents, Annex II.1.5.5). Despite the postponement of the obligation to issue a supplementary document for doctoral studies, the Faculty, with the support of the University bodies and services, issues a supplementary document to its completed doctoral students in accordance with the ZVOZD and ZOK (evidence Annex II.1.5.6). With the entry into force of the new legislation on the manner of issuing diplomas and supplementary documents, students were informed in a timely manner about the changes (notice of promotion, Annex II.1.5.7 and explanation, Annex II.1.5.8).

III.4 The higher education institution provides sufficient and easily accessible resources to support students.

The higher education institution provides the students with learning support and provides the necessary counselling to ensure an optimal studying experience (e.g. tutors, mentors and other counsellors, student services and other relevant career guidance services for students, psychological counselling, legal counselling, support for students from vulnerable and under-represented groups, support for students involved in international mobility programmes, library services, etc.) at the institutional level.

The Faculty systematically develops and applies a number of institutional forms of support to students with the aim of improving their academic success and overall student experience. The support covers academic, psychosocial, administrative and professional dimensions and is aimed at all students, with special attention to vulnerable and underrepresented groups.

The basic forms of support are organized through the work of specialized faculty **Student and Teacher Support Offices** and university offices:

- **Office of Student Affairs** – monitors student satisfaction, collects feedback and initiates improvements in the teaching process and student services.
- **Office for Support of Vulnerable and Underrepresented Students** – provides individual support to disadvantaged students; the Head of the Office regularly, once a semester, sends a public invitation to students to contact them in case of need.
- **Career Office** – offers professional counselling, assistance in preparing CVs and applications, connecting with alumni and employers, and information on internship and employment opportunities.
- **Mobility Office** – in cooperation with the Erasmus+ coordinator, organizes information workshops and consultations related to international exchange.
- **University Counselling Centre (SSC)** – provides psychological support, learning counselling and support to students with disabilities; the centre's staff regularly participates in introductory meetings and is available to students on the premises of the Faculty.

In addition to the work of these offices, the Faculty also implements a number of additional forms of support:

- **student mentors** (senior students) and **teachers-advisors** (per semester) who provide support to first-year and senior students in their academic and extracurricular orientation
- **student-to-student tutorials** for courses with low pass rates, schedule

- regular consultation appointments (60-120 minutes per week, terms Annex III.4.1.1)
- **preparatory workshops and courses** for an easier transition from the secondary school to the academic system
- **support from administrative and technical staff**, including daily appointments of the Office of Student Affairs and afternoon sessions once a week, as well as the availability of the Vice-Dean for Education and Student Affairs
- **a library service** that provides access to literature, databases and support in the preparation of papers (Annex III.4.1.2).

A Student Union has been established and active at the Faculty, within which each academic year has its own representative and deputy who communicates with teachers and the Management on behalf of all students of the academic year, participates in the work of the Student Support Office and is elected by them to participate in the work of the Faculty Council (Annex III.4.1.3)
SSC organizes an online *Learning Group* and holds workshops on effective learning for first-year undergraduate students. A system of targeted surveys has been introduced, especially aimed at students of underrepresented groups, in order to timely identify needs and adapt in teaching. The Faculty additionally allocates funds for the improvement of student standards: for the purchase of IT equipment and computer licenses, professional literature, support for field work and infrastructure investments (adaptation of physical access by installing an electric ramp).

Students are familiar with the various forms of support at their disposal.

The basic and primary way of informing students about all forms of support is through websites that are organized in such a way that the main menu includes *the topic Studying*, in the secondary menu the topics *Student Info* (expected the most visited site), and *Study at GF*, where there is information about enrolment, as well as *Mobility*. In addition to the **Faculty's constantly available website**, information for students is regularly published and filtered by categories (e.g. **Student info**, **Classes**, **Scholarships**, **Education**, **Competitions,** etc.). Communication is additionally carried out through social networks (**Instagram**, **Facebook**, LinkedIn, and recently TikTok), **e-mail** – when it is necessary to highlight or urgently send information – as well as through **student representatives** from **the Office of Student Affairs**. Information is also conveyed through introductory **presentations for freshmen**, a shared document with summaries of the conclusions of the Faculty Council sessions related to students (Annex III.4.2.1, and through teachers, student offices, teacher advisors and student mentors.

The higher education institution supports the students in acquiring and developing digital skills.

The Faculty systematically encourages teachers to develop and apply digital skills in teaching by applying modern computer tools for solving engineering problems. Support to teachers is provided by collecting data on the needs for academic licenses and installations in computer classrooms before the beginning of the academic year and encouraging professional development and education of teachers. Support for students is provided by enabling them to obtain student licenses for most of the tools used in teaching and informing about it. Licenses that are not automatically available to the academic community are provided through the line ministry (e.g. MS Office 365 licenses, Windows operating system), the University of Rijeka (e.g. Google Tools, MS Software Developer) or the Faculty itself (Autodesk and Nemetschek). All necessary licenses are installed in computer classrooms before the beginning of the academic year for the purpose of teaching and independent work of students (Annex III.4.3.1). Students in the course Informatics in Engineering, through websites and other teachers, are informed about the possibilities.

The Faculty has three computer classrooms equipped with almost 100 workstations, and about 60% of courses are taught in whole or in part in these classrooms (classroom capacity). The Faculty provides and organizes independent access to computer classrooms for students through a system of recorded access

and a clearly defined schedule of classroom availability on the Sceduly digital platform. In this way, students can plan and achieve access to the necessary computer resources at any time (classroom access procedure). Special attention is paid to the development of digital competencies of students through final and graduate theses, where various computer tools are used for geometric and computer modelling, data analysis, graphic representation and text editing.

From time to time, targeted workshops are organized to develop students' digital competencies. An example of such an activity is a multi-year workshop on the use of Allplan tools, after which students are additionally motivated to participate in regional Allplan competitions (Annex III.1.1.6, Annex III.1.1.5). Also, in case of need for additional education in the use of AutoCAD tools, senior students hold workshops for colleagues from lower years of study (Annex III.1.4.2). In addition, the Faculty actively promotes the use of the Coursera online platform through the Coursera UNIRI Basic Plan, providing students with the opportunity to acquire additional digital and transferable skills with the availability of additional reward licenses and an unlimited number of certificates over a period of four months, through which teachers and students enrolled in a total of 100 trainings (invitation to students to apply Annex III.4.3.2, data on enrolled trainings and acquired certificates Annex III.4.3.3). Teachers are encouraged to include content from the Coursera catalogue in courses and to perform recognition within the course (information addressed to teachers, example of recognized conduct).

The faculty regularly organizes guest lectures by experts and invites students to participate in such events. A recent example is a lecture on the topic of *BIM in practice*, held in cooperation with alumni and professional bases of the Faculty, as well as various activities carried out by the Centre for Digital Construction (CDI), with which the Faculty has intensive and active cooperation, and Free workshops on BIM tools are regularly organized and held (2021, 2022, 2023, 2024). As part of the L&T *event Build Your Carer Garden*, workshops were held over three days: *Presentation of online learning platforms Digital Competences for Educators*, *ChatGPT from teacher's perspective, Using Socrative and AHA! Slides as a tool for increasing student engagement in onsite, online and blended learning, Digital design: videos - hands on workshop*.

Student support is tailored to a diverse student population (part-time students, senior students, foreign students, students from under-represented and vulnerable groups, students with learning difficulties and disabilities, etc.).

Student representatives elected from among all students participate in the work of the Student Support Office. Information on the activities of the Office for Support of Vulnerable and Underrepresented Students, and an invitation to apply for assistance, support and adaptation is also sent to all students via e-mail. Although documents defining vulnerable and underrepresented categories in higher education have been published on the website, the call also highlights other groups that may need support, some of which are defined by the Ordinance on Studies of the Faculty of Civil Engineering in Rijeka (student parents, student guardians, student parents of underage children, single parents, student athletes and categorized athletes, or are simply recognized experientially in the communication and work with students: older students, students from abroad, part-time students, full-time students who work, students who need justified medical intervention and recovery or have impaired health, students who have difficult life circumstances). In the records of students with adaptation in teaching, which is available to teachers, different categories of students can be seen, with detailed information on the reasons for adaptation at the discretion of the Head of the Support Office. For part-time students, classes are carried out at an adjusted hourly rate of 50% in the afternoon (from 5 pm to 9 pm). In the professional graduate study, where most students are employed and often older students, and students who work outside Rijeka, classes are carried out in rotations, and are concentrated in three days a week, while one day is reserved for partial exams and exam periods.

After the end of the COVID-19 pandemic, classes for part-time students were organized for two academic years in such a way that they were held in a hybrid form, in accordance with the Ordinance on Studies of the Faculty (Art. 7). 60% of classes in the adjusted timetable were held live and 40% online via the Merlin system synchronously or asynchronously, with the emphasis on holding only practical classes live, which is visible in the invitation to teachers to create detailed lesson plans. This adaptation has reduced the share of time spent on travel and easier access to classes and teaching materials for students who are employed, work or live outside of Rijeka and have family obligations. Although it was expected that such an adjustment would benefit students and facilitate access to classes and teaching materials, the analysis of the performance of part-time students concluded that it is not effective and suitable for this group of students because it requires extreme dedication, self-discipline and additional focus and time to navigate the online learning environment. Therefore, in the academic year 2024/2025, classes are conducted in an adjusted live timetable. Older students in full-time studies who are employed and parents also have the option of adaptation in the form of a tolerated higher percentage of absence than 30%, flexible deadlines for activities that are scored, additional support or education on digital skills, and the loan of a computer if it is an older student of lower financial status.

The higher education institution systematically monitors the different needs of students, especially those from vulnerable and under-represented groups; it ensures conditions of studying and adapts the teaching methods and the test of knowledge and skills according to their individual needs.

The Faculty systematically monitors the different needs of students, especially focusing on the needs of students from vulnerable and underrepresented groups and monitoring, applying and informing teachers about the key documents of the Ministry of Science, Education and Youth (MZOM) of the Republic of Croatia, which relate to the social dimension and support for vulnerable and underrepresented groups in higher education: Underrepresented and vulnerable groups in higher education in the Republic of Croatia (2024) and the Roadmap for Enhancing the Social Dimension of Higher Education 2023-2025.

Within its organizational structure, the Faculty has established the Office for Support to Vulnerable and Underrepresented Students, whose main task is to continuously provide support to students who face additional challenges during their studies. The Office provides students with individual counselling, adaptation of the way of teaching and adaptation of methods of testing knowledge and skills in accordance with their specific needs. At the beginning of each academic year, students are actively invited to join the internal records via e-mail communication, which clearly defines groups such as parents, single parents, guardians, people with disabilities and people with justified learning difficulties. The records of students with adjustments are transparently available to teachers so that they can provide appropriate adjustments in teaching activities in a timely manner (call Annex III.4.5.1, records of adjustments Annex III.4.5.2, reports on the work of the Office Annex III.4.5.3). In addition to direct support to students, the Faculty regularly organizes trainings and workshops for teachers in order to further raise awareness of the difficulties students face and improve the understanding of the importance of providing support. The goal is to provide all students with equal opportunities to successfully complete their studies, regardless of their individual challenges. This systematic approach, based on the Study Regulations (Article 11), demonstrates the Faculty's commitment to creating an inclusive environment and ensuring quality study conditions for all students. Our student from the group of vulnerable and underrepresented students was awarded the 2022/2023 Award by the University of Rijeka, and in 2023/2024 *the Equalization of* Opportunities for Academic Success Award (Novi list**:** Sara Petrović Award "Equalization of Opportunities").

The higher education institution employs an appropriate number of qualified and committed professional, administrative and technical staff.

The Faculty employs 17 persons who work as librarian, technical, administrative and auxiliary professional staff (Table 4.1), and they are employed in the Secretariat, the Dean's Office, the Office of Student Affairs, the Office of Legal, Human Resources and General Affairs, the Department for Financial and Accounting Affairs, the Library and the Laboratories of the Faculty. The ratio of teaching and professional staff is 3.9:1. The employment of professional, administrative and technical staff is carried out in accordance with the Ordinance on the Announcement and Implementation of Public Tenders for Employment for Official, Employee and Research Positions and for Election to Professional Titles and Positions in the System of Science and Higher Education at the Faculty of Civil Engineering in Rijeka (Annex III.4.6.1), which defines the procedure for selecting the best candidate on the basis of the received documentation, examination of knowledge and interviews with candidates. The analysis of the previous Development Strategy for the period 2018 – 2022 showed that, despite the successes achieved, there is room for improvement in the field of human resources (Monograph of the Faculty of Civil Engineering). In the new Development Strategy for the period 2024 – 2028 (Annex III.4.6.2), the Faculty has set clear guidelines for improvement in this segment. In accordance with the Strategy, in 2024, the Center for Project Support was established, in which an expert associate is employed, and it is planned to employ additional administrative and technical staff in the Project Support Centre and the Centre for Quality Assurance and Development, which will provide better support to the teaching process and scientific research. In the period since the previous re-accreditation, the Faculty has strengthened its human resources in professional and administrative organizational units by 21% (increase from 14 to 17 employees).

III.5 The higher education institution provides favourable conditions and support for students entering international outgoing and incoming mobility programmes.

Croatian students are informed about the opportunities for completing a part of their studies abroad.

The Faculty participates in three international student exchange programs: ERASMUS, CEEPUS and YUFE. Students are continuously informed about open mobility competitions via e-mail (Annex III.5.1.1), websites (Annex III.5.1.2) and Mobility Days (Annex III.5.1.3, Annex III.5.1.4, Annex III.5.1.5) and digital posters. The Mobility Office plans and implements activities of information, promotion of good practice, and encouragement of mobility of both teachers and students. In addition to the Vice-Dean in charge of cooperation, who is the Head of the Mobility Office, the Faculty has appointed mobility coordinators for each network (Annex III.5.1.6, Annex III.5.1.7, Annex III.5.1.8), an ECTS coordinator, and an administrative employee who provides support for Erasmus mobility. Although the largest number of student mobilities is achieved within the Erasmus program, as a constituent of the University of Rijeka, the Faculty actively participates in exchange programs within the YUFE alliance of European universities. In this context, the Faculty encourages students to engage in informative activities such as YUFE OpenDay events (Annex III.5.1.9), to participate in YUFE Student Journey (Annex III.5.1.10) and challenges (Annex III.5.1.11), as well as to attend YUFE courses, including those available in online format. YUFE courses are included in the curriculum in the group of elective courses (Annex II.1.2.4) in undergraduate studies. In the academic year. As of 2024/2025, five of our students applied for YUFE Minor (Annex III.5.1.12), one of whom is a first-year student, which proves that students are well informed. In the past 5 years, 32 students participated in outgoing mobility, and 132 students participated in incoming mobility (Table 3.5), which indicates the need to strengthen activities in the direction of increasing outgoing mobility (presentation of information by study years, examples of recognition, release of semesters for mobility purposes, etc.). In the academic year 2024/2025, one graduate student participates in professional practice abroad, and a group of 8 students will participate in BIP mobility as part of graduate courses.

The higher education institution encourages students to engage in outgoing mobility programmes by organizing various promotion campaigns and providing information and a regulated and flexible way of recognising ECTS credits acquired during mobility programmes.

In accordance with the University Development Strategy and the Faculty Development Strategy harmonized with it, the Faculty is continuously working to encourage mobility, which contributes to **internationalization, flexible student learning paths** and the acquisition of transferable skills. **Mobility Days,** where students and staff who have completed mobility exchange their experiences and information for the purpose of promotion (Annex III.5.2.1), and members **of the Mobility Office** provide the necessary information and answer specific questions (leaflet Annex III.5.2.2, programme Annex III.5.2.3). The Faculty has adopted the application of the Ordinance on the Recognition and Evaluation of Prior Learning of the University of Rijeka, and applies the provisions of the University **Ordinance on the International Exchange of Students**, Teaching and Non-Teaching Staff within the Erasmus Programme of the University of Rijeka. In addition, the PVPU acts in accordance with the Guidelines for the Recognition of Prior Learning. For seven years now, a uniform recognition procedure has been implemented, with the associated role of mobility coordinator, ECTS coordinator and vice-dean, which provides students **with counselling** from the initial idea of mobility to the recognition of learning outcomes. This allows for **the automatic recognition of learning outcomes** acquired during mobility.

The higher education institution provides support to students in applying for and carrying out exchange programmes.

Mobility coordinators provide **individual counselling and support** before, during and after the mobility, while **an administrative staff member** helps with the technical aspects of the application and the collection of documentation. **The ECTS coordinator**, who is also the Vice-Dean for Education and Student Affairs, **advises students** on the educational offer and **the possibilities of recognition of** learning outcomes acquired during mobility (example of an inquiry for professional practice Annex III.5.3.1, example of counselling Annex III.5.3.2, example of support Annex III.5.3.3). Through individual counselling of students on the possibility of obtaining ECTS outside the study programme when they are not able to enrol in all 60 ECTS courses in the academic year due to unpassed prerequisites (Annex III.5.3.4), informal **conversations**, **welcome speech to freshmen** (Annex II.4.2.1), students are encouraged to be mobile. **Teachers and professional and administrative staff** of the Faculty are available for continuous communication and assistance throughout the entire **period of incoming and outgoing mobility**. In order to encourage teachers to participate in incoming mobility activities, the Dean's Decision (Annex III.5.3.5) defines the **standardization of direct and indirect forms of teaching** (e.g. 4-week project work is standardized as 15 hours of seminar).

The higher education institution ensures the recognition of ECTS credits gained at another higher education institution.

The procedure for the recognition of prior learning during Erasmus mobility is defined **by the Ordinance on the International Exchange of Students, Teaching and Non-Teaching Staff within the Erasmus Programme of the University of Rijeka** (Annex III.5.4.1). The same recognition practice applies to other forms of mobility. Acts, forms and other information related to the recognition of prior learning are published on the website. After successfully completing the mobility, the student is recognized for the acquired outcomes, which exempts the student from parts of the study program. In the ISVU system, the original names of courses from the host institution are entered, the grades are translated into the national grading system and entered into the student's grade point average. The achieved learning outcomes are entered into **the Diploma Supplement** (Annex III.5.4.2). The ECTS coordinator advises students on the alignment of learning outcomes and ensures a transparent assessment of the recognition of prior learning (example of a previous decision

on the recognition and validation of learning outcomes acquired on mobility during outgoing mobility planning, Annex III.5.4.3). In 2021, the Senate of the University of Rijeka adopted the **Decision on the Recognition of Extracurricular Activities and Enrolment in the Diploma Supplement** (Annex III.5.4.4), which, among other things, defines the obligation and manner of enrolment in mobility programme activities that are not valued by ECTS credits.

Information on the opportunities for enrolment and studying is available to foreign students in a foreign language.

On the English version of the official website, under the topic *Admissions*, basic information on the manner of conducting study programs at undergraduate and graduate studies is published, as well as contacts of relevant services. Study programmes of pre-graduate and graduate studies are published in English on the original website and in English (Annex III.5.5.1, Annex III.5.5.2, Annex III.5.5.3, Annex III.5.5.4) Detailed information on enrolment and the full text of the competition for enrolment in the doctoral study programme (Annex III.5.5.5) are published on the website of the doctoral study programme also in English. In addition, a translated regulation has been published for the doctoral study: the Regulations on the Doctoral Study (Annex III.5.5.6) and the study programme (Annex III.5.5.7) have also been translated and available on the website. All studies are conducted in the official Croatian language and this is a condition for following the study, which is the first information given to foreign students interested in undergraduate and graduate studies. In undergraduate and graduate studies, part of the courses (from the Erasmus course catalogue Annex III.5.5.8) can be attended in English, while doctoral studies can be attended entirely in English (Annex III.5.5.9).

The higher education institution is engaged in actively attracting foreign students to come to mobility programmes and/or enrol in a study programme and obtain a full qualification.

As part of the International Relations Office of the Student Union of the University of Rijeka, the Centre for International Mobility and Erasmus of the University of Rijeka, and the Mobility Office and the Student Office of the Faculty, professional assistance and support in English are available to all foreign students in collecting and preparing the documentation necessary for application and enrolment in the study (UNIRI Erasmus Mobility website for incoming and outgoing students, welcome and information for incoming students). In order to facilitate the integration of foreign students into the academic community and the local environment, the Faculty actively cooperates with the Erasmus Student Network Rijeka (ESN Rijeka), which provides support to students when arriving, finding accommodation, and organizes orientation week and mentoring activities.

Traditionally, through standard platforms and a network of coordinators, the Mobility Coordinators of the Faculty promote mobility activities offered by the Faculty to incoming students: **courses in English** (lasting one or two semesters), **project work outside the course** (lasting 4 weeks) or **mentoring work on a research topic** (lasting from 4 to 7 weeks). In the last few years, the Faculty has established a database of courses that can be taught in English, from which the offer is defined for each academic year depending on the current possibilities, plans and teaching load of teachers (Erasmus course catalogue Annex III.5.5.7).

Based on the positive experience of many years, certain institutions regularly refer students to the Faculty as a host institution, while at the same time there are more and more frequent inquiries for mobility from new institutions (example of inquiries within *the Edupacked* India program Annex III.5.6.1, inquiry from TU Dresden Annex III.5.6.2). During outgoing mobility, teachers **present the possibilities of studying** at the Faculty to the host institutions, which stimulates **interest** and often generates the arrival of foreign students (example of a teacher mobility program Annex III.5.6.3 and curriculum form ERASMUS+ mobility Annex III.5.6.4). Calls for **enrolment in doctoral studies** are published on the relevant international websites (e.g.

ResearchGate) in English. The doctoral study was presented at the EURASIA online study fair in 2020 and 2021.

The higher education institution provides support to foreign students during enrolment, integration and studying at the Croatian higher education institution.

Foreign students have all forms of support available to domestic students: a clearly and timely published procedure, method and conditions of enrolment. Applications for enrolment for foreign students are part of a transparent procedure that is identical to that for domestic students with the additional support of the Central Application Office (ASHE). The Office of Student Affairs is available for additional questions and assistance in English, as well as the Vice-Deans of the Student Support Office. The Vice-Dean in charge of teaching and students or the Vice-Dean in charge of doctoral studies determine the list of foreign students through the enrolment procedure, and additionally inform them about the support options (example of support and monitoring Annex III.5.7.1, example of responses to inquiries from foreign students Annex III.5.7.2). An example of support is the intensive mutual communication and cooperation between the Vice-Dean for Education and Student Affairs (ECTS Coordinator and President of the Committee for the Evaluation and Recognition of Prior Learning) and the Vice-Dean for Science and International Cooperation (Head of Doctoral Studies) of the Faculty,during the recognition of the previous learning of a foreign student in the doctoral study that took place prior to the transition to the doctoral study of the Faculty. Although it is the responsibility and obligation of the student, the Vice-Deans provided support in collecting the necessary documentation from the previous study (communication within the Faculty (Annex III.5.7.3), communication between institutions (Annex III.5.7.4).

Foreign students have the opportunity to attend classes delivered in a foreign language (English).

All teaching materials and important information are available to students through the Faculty's website and e-learning system (Merlin/Moodle) in English, while Merlin is available in seven European languages. Classes for international students are carried out separately in English, which ensures equal conditions for domestic and foreign students. Doctoral students have the opportunity to follow the entire course of study in English, in accordance with the Act on Scientific Activity and Higher Education (2017 – 2022), ZVOZD (2022 –) and the Ordinance on Doctoral Studies and the Doctoral Study Curriculum (Annex III.5.8.1). Although all study programmes are primarily taught in the Croatian language, according to the official curriculum, there is a possibility of carrying out certain courses in a foreign language, which is stated in the detailed implementation plan of each course (a large proportion of courses have this option) (Annex III.5.8.2).

Croatian language courses are delivered for foreign students at an institutional level.

Foreign students have the opportunity to enrol in a preparatory course for learning the Croatian language organised by the Rijeka School of Croatian Studies at the Faculty of Humanities and Social Sciences of the University of Rijeka, which is stated in the joint application for enrolment in all constituent parts of the University of Rijeka (Annex III.5.9.1).

The higher education institution gathers and analyses feedback on the satisfaction of students involved in outgoing and incoming mobility with the quality of support provided by the higher education institution and actively informs students and other stakeholders about the interventions and improvements implemented.

At the end of the semester, incoming Erasmus+ mobility students, who attend courses in English, have access to a survey for the evaluation of courses and teachers' work. The turnout for the survey is very low, which is explained by the departure of students to their home institutions immediately after the completion of their obligations, i.e. before the end of the semester. The continued interest in the arrival of students from institutions such as CNAM Reims, Brno University of Technology and Groupe ESAIP Anjou indicates a high level of satisfaction with mobility, quality of courses and communication with teachers (example

feedback, Annex III.5.10.1, Annex III.5.10.2). The University of Rijeka collects feedback on student mobility at the institutional level, but the current system does not allow for detailed processing of data by constitutent. Feedback on mobility aspects is collected through OUK Board meetings, with teachers pointing out challenges such as insufficient prior knowledge or limited language competences of students. In response, the Faculty is developing a catalogue of courses in English that include previously acquired professional and practical learning outcomes and courses that are interdisciplinary and do not require prior knowledge. During outgoing mobility, students communicate with the Erasmus+ coordinator and administrative staff in order to resolve any difficulties in a timely manner. Upon their return, they share their experiences through informal conversations and formally, at the *Mobility Day* event organized by the Mobility Office (Annex III.5.10.3).

IV. TEACHING CAPACITIES AND INFRASTRUCTURE OF THE HIGHER EDUCATION INSTITUTION

The Faculty provides stable and high-quality teaching capacities and continuously invests in the development of human and infrastructural resources necessary for teaching, scientific research and professional activities. The recruitment and promotion of teachers is carried out according to clear, objective and transparent criteria that encourage excellence. The Faculty systematically supports the professional development of its teachers through education, mentoring and involvement in projects, while the spatial and technical conditions, including equipped laboratories, library and digital resources, are aligned with the needs of modern study and research. Financial resources are planned and allocated in accordance with the priorities of teaching and scientific activities, which ensures sustainability and quality in all segments of the Faculty's activities.

IV.1 The higher education institution ensures adequate teaching capacities.

The higher education institution has an adequate number of teachers employed full time at the scientific-teaching or artistic-teaching positions (for universities or constituents of the university), or an adequate number of teachers employed full time at teaching positions (for polytechnics / universities of applied sciences), along with an appropriate number of teachers in the scientific field in which the programme is being delivered (21 teachers at universities, at least 3 of which are from said scientific field; at least 7 teachers at a faculty or arts academy, at least 3 of which are from said scientific field; and 7 teachers at polytechnics / universities of applied sciences, at least 3 of which are from said scientific field).

Structure of staff at the Faculty in the academic year 2023/24 is shown in Table 4.1. **There were 42 full-time teachers employed in the scientific-teaching position**, of which 6 full professors with permanent tenure, 4 full professors, 18 associate professors and 14 assistant professors. **Out of 42 teachers employed in a full-time scientific-teaching position, 37 of them were selected in the field in which the study is carried out** - 26 teachers in the field of Civil Engineering and 11 teachers in the field of Basic Technical Sciences (Table 1d).

Teachers' CVs are given in Annex IV.1.1.1. **Care for the development of teaching capacities** is particularly visible through the increase in the number of scientific and teaching positions through promotions in scientific and teaching positions (Annex IV.1.1.2). An overview of employment for scientific and teaching positions from 2020 to the end of September 2024 is given in Annex IV.1.1.3. In the past five years, the **total number of employees in scientific and teaching positions has increased** from 37 in 2018 to 43 in 2024.

The ratio between the total number of enrolled students and the total number of full-time teachers and those with nominal teaching titles does not exceed 30 : 1 (when calculating the ratio, the number of working hours of teachers who are not employed full time is added up to the number of working hours required of a full-time teacher).

The total number of teachers at the Faculty in the academic year 2023/2024 who were involved in teaching was 61.23, while the total number of students was 721. **In this way, a favourable ratio between teachers and students was achieved, which is 1:11.78**, which enables an individualized approach and quality teaching (Table 1a).

The total annual teaching load of all teachers does not exceed 20% of the total annual teaching load (in the case of public higher education institutions).

The value of all forms of direct teaching (lectures, exercises and seminars) of an individual Faculty teacher in each study programme is shown in Table 1b. **The ratio of working hours (teaching to science)** and teaching load at the home institution and external institutions for each individual teacher of the Faculty is

shown in Table 4.2. In addition, the Faculty keeps systematic records of the composition of the workload for each academic year (Annex IV.1.3) in accordance with the provisions **of the Collective Agreement for Science and Higher Education** which prescribes a standard and flexible division of working time intended for teaching and science. From the composition shown for academic year 2023/24 (Annex IV.1.3), **the total annual teaching load of all teachers does not exceed 20% of the total annual teaching load**. Teaching loads are monitored systematically, and the composition of the workload for each teacher is defined by an annual plan before the beginning of the academic year, which is updated in accordance with the actual teaching.

Total annual teaching load of an individual teacher does not exceed 20% of the total annual standard teaching load.

As stated in the description of the previous indicator, the data on the workload of teachers in the academic year 2023/24 are given in Table 1b and Table 4.2, and the records of the composition of the workload are given in Annex IV.1.3.1, all in accordance with the provisions **of the Collective Agreement for Science and Higher Education** (OG 9/2019). From the given presentations, it is evident that the workload of teachers is harmonized with the applicable legislation and that for the most part **it does not exceed 20% of the total annual teaching load**. The exception is the members of the Faculty Management, for whom the increased teaching load is the result of a reduction of the full teaching load by 50% (or 20% in the case of the Dean) according to the provisions of the Collective Agreement for Science and Higher Education.

Teachers' workload ensures appropriate distribution of teaching, scientific/artistic activities, professional and personal development and administrative duties.

At the Faculty, teachers are systematically provided with adequate time for scientific work and professional development through several institutional measures. **An equal distribution of teaching and administrative responsibilities** enables a balanced engagement in all areas of work, while teachers active in research projects reduce the teaching workload in order to allow them more time for scientific activities. Clear rules on **the flexible distribution of working time** are defined by the Collective Agreement for Science and Higher Education (Official Gazette 9/2019), which enables teachers to devote part of their working time to research and development (Table 4.2), which strengthens the balance between teaching and scientific obligations and ensures the long-term sustainability of academic work. It should be emphasised that some doctoral students are fully dedicated to research (research positions), while doctoral students employed in assistant positions are relieved of teaching duties in the final stages of their doctoral studies. In addition, in 2024, the Faculty established a Project Support Centre and hired a person in the position of expert associate who handles the administrative parts of project applications and the implementation of scientific projects, and thus takes over part of the administrative obligations of teachers in order to ensure a better distribution of teaching and scientific work. All teaching activities (lectures, exercises, mentoring, research and management) are regularly analysed and compared with university standards in order to maintain an optimal balance between obligations.

All teachers, including external associates, are qualified for the courses they deliver, have relevant work experience and integrate the latest trends and knowledge from the labour market into the teaching process.

Teachers at the Faculty, including external associates, are qualified to teach the courses they teach, have relevant work experience and actively incorporate the **latest professional knowledge and trends from the labour market** into the teaching process. Table 4.3 provides an overview of the achievements (number of scientific papers in journals, books and conference proceedings, number of professional papers in journals, books and conference proceedings, number of author's books and number of editorial books) of all Faculty teachers, including external associates.

Faculty teachers undergo continuous **professional development by participating in domestic and international scientific research projects** and through education conducted by institutions such as

EdihAdria, the Croatian Chamber of Civil Engineers (in cooperation with the Faculty) and the STEP RI Science and Technology Park. Professional development is further supported by the work of the Office for the Improvement of Teaching and cooperation with the Centre for Teacher Education of the Faculty of Humanities and Social Sciences in Rijeka, which encourages **the application of modern teaching methods and the development of teaching competencies**. The Faculty cooperates with 25 professional bases – construction and design companies, in which practical examples are regularly included in teaching. External experts participate in lectures, mentoring, field teaching and professional projects, which further strengthens the connection between education and the needs of the sector.

IV.2 Teacher recruitment, advancement and re-appointment is based on objective and transparent procedures, which include evaluation of excellence.

The higher education institution has developed and regularly updates the staff recruitment policy and plan in order to ensure adequate teaching capacities. The overall process of attracting, applying selection methods, selecting and recruiting, as well as professional development and promotion of the teaching staff is based on professional, objective and transparent procedures and criteria which promote excellence and are consistently applied.

The Faculty implements **an employment policy based on professional and transparent criteria**, with the aim of ensuring adequate teaching capacities and encouraging excellence in higher education. The employment plan is confirmed by the Faculty Council, and is regularly updated in accordance with the needs of study programmes, scientific priorities and regulations of the University and ZVOZD (Official Gazette 119/2022).

Based on the recommendations from the last re-accreditation, following the quality strategy, the Faculty strengthened its teaching staff from 2018 to 2023 **by applying clearly defined criteria**. The evaluation of candidates includes scientific productivity, teaching competencies and professional contribution. Special emphasis is placed on transparency – job vacancy announcements are published through official channels, and selection processes are conducted through expert committees with documented selection procedures (Annex IV.2.1.1). All **job vacancies** were published through official channels (e.g. EURAXESS, Official Gazette, websites of the Faculty and the University), and the selection processes were carried out through committees involving representatives of various scientific fields (Annex IV.2.1.2). The reports on the conducted job vacancy announcements clearly document the **procedures for evaluating and selecting candidates**, which ensures fairness and a meritocratic approach. The Faculty systematically supports newly employed teachers through mentoring, professional development and involvement in projects.

The procedures of teacher recruitment are aligned with the higher education institution's development goals, relevant legislation and internal regulations.

The processes of employment, promotion to higher ranks and re-election of teachers and associates are carried out on the basis of objective and transparent procedures in accordance with the following legal regulations and internal acts:

- Act on Scientific Activity and Higher Education (OG 123/03, 198/03, 105/04, 174/04, 02/07-decision of the USRH, 46/07, 45/09, 63/11, 94/13, 139/13, 101/14-decision of the USRH, 60/15-decision of the USRH and 131/17) until 21/10/2022, and from 22/10/2022 the Act on Higher Education and Scientific Activity (OG 122/22)
- Decision on the Necessary Conditions for the Assessment of Teaching and Scientific-Professional Activity in the Procedure of Election to Scientific-Teaching Titles (OG 122/17 and 120/21)
- Decision on the Necessary Conditions for the Evaluation of Teaching and Professional Activity in the Procedure of Selection to Teaching Titles (OG 13/12, 24/12 and 120/21)

- Decision on the Form and Manner of Conducting the Inaugural Lecture for Election to Scientific-Teaching Titles, Art-Teaching and Teaching Titles (OG 129/05)
- Ordinance on the Procedure for Selection to Scientific-Teaching, Artistic-Teaching, Scientific, Teaching and Associate Titles and to Appropriate Positions at the University of Rijeka (Ordinance of the University of Rijeka of 15/05/2015)
- Decision on the minimum conditions of work obligations for re-election to scientific, scientific-teaching, artistic-teaching, teaching and professional positions and on the form of the report of the expert committee on the work of employees in the re-election procedure (OG 24/21)
- Statute of the Faculty of Civil Engineering in Rijeka of May 3, 2023
- Statute of the University of Rijeka (p/t of 28 March 2025).

For each calendar year, the Faculty Council adopts **the Plan of Promotion, Employment and Other Personnel Changes**. It is compiled on the basis of the available number of vacancies created by the employee's retirement, termination of the employment contract or other termination of the employment contract, all in accordance with the actual staffing needs of the Faculty (anticipated employment of employees for scientific-teaching (Annex IV.1.1.2), teaching or associate positions (Annex IV.2.2.1), i.e. the promotion of employees who have met the conditions for promotion to higher positions (Annex IV.2.2.2). Upon adoption of the Plan by the Faculty Council, it is submitted to the Senate of the University, which confirms it by a Decision. On the basis of the **Decision on the Adoption of the Plan**, the University of Rijeka issues Approvals, and the Ministry of Science, Education and Youth issues prior approvals for announcing public job vacancy announcements and promotions to higher positions of employees. Internal acts of the Faculty, such as the Rules of Procedure, the Ordinance on the Election to Scientific and Teaching Titles, the Procedure for the Promotion of Employees and the Faculty Development Strategy, define additional criteria and standards that arise from the specific needs of the teaching process and scientific work.

The decision to **announce a** job vacancy announcement **or promotion to scientific-teaching, teaching and associate positions** is made by the Faculty Council with the consent of the University of Rijeka and the Ministry of Science, Education and Youth. At the same time, it appoints an Expert Committee for the implementation of the procedure, of which one member is necessarily an external member. The announcement specifies the area and field of work, and the applications are submitted to the Committee upon completion of the deadline, which provides a written explanation and proposal of the candidate within 30 days. The Faculty Council then makes a decision on the acceptance or rejection of the proposal within 30 days, and sends the decision on acceptance to the National Committee within eight days (except for associate positions). The entire procedure for the promotion and employment of new teaching staff is given on the Faculty's website.

The Faculty selects **applicants for the first time for a scientific-teaching position** according to the relevant acts that define the conditions and procedures of selection, and are clearly stated beforehand. For new employees**, registration in the Employee Register is also carried out,** as well as registration with the Croatian Health Insurance Fund, HZMO, ISVU and internal personnel records.

The procedure for the re-election of teachers shall be initiated five years after the last election or re-election, and shall be completed no later than six months from the date of initiation of the procedure (Annex IV.2.2.3). The re-election procedure is initiated if the teacher has not submitted a request for election to a higher position before the expiry of the term for which he or she was elected or re-elected. The Faculty conducts the re-election of teachers in accordance with the procedure defined in Article 43 of the Act. ZVOZD (Official Gazette 119/2022).

In the selection, appointment and evaluation of teachers, the higher education institution takes their past activities (teaching activity, research activity, student feedback, etc.) into consideration.

When selecting, appointing, evaluating, rewarding, promoting teachers, important activities (teaching, professional, scientific, research, student feedback based on student surveys, Certificates of Institutional Research on the Quality of Teaching Work) and achievements are taken into account (scientific and professional papers, work on projects, mentoring on final and graduate theses, international contribution to the discipline, prestigious publications, textbooks, etc.).

The Faculty implements a structured approach to the selection, appointment and evaluation of teachers, based on clearly defined criteria that include teaching and scientific activity, professional contribution and student feedback. Such an approach enables the selection of quality staff and the continuous improvement of teaching. Scientific productivity is monitored through the number and quality of publications (Web of Science, Scopus) citations, participation in projects (HRZZ, Horizon, Interreg, Erasmus+) and through patents, technical solutions and expert studies. The evaluation of teachers' work is carried out according to national criteria.

The higher education institution has appropriate methods of selection of the best candidates for each position and uses competitive, excellence-based recruitment criteria in addition to the minimum requirements prescribed by the national legislation.

The Faculty **carries out recruitment in accordance with national regulations and internal regulations, ensuring transparency and excellence**. Job vacancies are published publicly and contain a job description, conditions and necessary documentation. Candidates must meet the legal requirements (ZVOZD), including appropriate scientific, teaching and professional qualifications. Applications are reviewed by an expert committee that may carry out additional tests or interviews. The expert committee proposes the best candidates according to the criteria of excellence, and the Faculty Council makes the final decision. Candidates are informed in a timely manner about the outcome of the competition. In 2025, new national minimum requirements are expected to be adopted, after which it is planned for the Faculty to adopt its additional competitive criteria.

The Faculty has its own regulations that elaborate in detail the promotion procedures (among other things, the Ordinance on the Announcement and Implementation of Public Tenders), which regulates the **procedure of publishing and implementing competitions for promotion with the aim of ensuring transparency and fairness in the selection process**, as well as the document Procedure for the Promotion and Employment of Teaching Staff, which precisely describes all the steps in the promotion process, including the evaluation of candidates according to clearly defined criteria of excellence.

The procedures for advancement of teachers to higher ranks are based on the evaluation and rewarding of excellence and important achievements (such as international contribution to the scientific discipline, high-impact publications, significant scientific discoveries, successful projects, success in securing additional funds, mentoring, supervision of final and graduation theses, authorship of textbooks and study materials, popular lectures, etc.) are considered.

The Development Strategy of the Faculty for the period 2018 – 2022 includes **investment and monitoring of human resources development** (described under Area 6. Objectives, tasks and plan of activities, points 6.4. Organisation), as well as strategic goals related to increasing the number of researchers and teachers, encouraging training and systematic monitoring of human resources development, forming a system of rewarding employees, ensuring the quality of work through standardized evaluation procedures, self-evaluation and internal assessment of the quality assurance system. The assessment of candidates takes into account achievements such as active participation in internationally relevant projects, conferences and collaborations, publication of scientific papers in reputable international journals, innovative contributions that improve theory and practice in the field of civil engineering, management or participation in projects that obtain external funding for research, quality mentoring of students at all levels of study, including

undergraduate, graduate and doctoral theses, authorship of teaching materials that improve the quality of teaching and the availability of professional literature to students, as well as engagement in the popularisation of science through public lectures and workshops, and contribution to the profession through consulting and other professional activities. The Faculty encourages excellence through recognitions, financial awards, and involvement in significant projects, thereby motivating academic staff to achieve high achievements.

lIndicators of excellence include scientific, teaching and professional work and contribution to the development of higher education institutions.

The Faculty systematically evaluates the excellence of its teachers through measurable indicators of scientific, teaching and professional work that are embedded in the criteria for rewarding teaching and scientific activities. In scientific work**, the number and quality of publications in journals indexed in Scopus and Web of Science, H-index,** as well as leadership and participation in projects, especially financed from national and international sources, are appreciated. In the teaching work, following clear Faculty guidelines, authorial, reviewed materials and mentoring of students are important. International mobility through teaching or training abroad is especially valued. Professional activities include cooperation with industry (through knowledge transfer – rewarding employees for the highest total amount charged (cumulatively) from knowledge transfer, and for the highest amount charged for individual knowledge transfer), participation in projects, consulting work and popularisation of science through lectures and media appearances. The Dean of the Faculty rewards teachers who go beyond the basic obligations and actively contribute to scientific excellence, quality of teaching and the reputation of the institution at the national and international level (active participation in international scientific and professional projects, publication of papers in relevant scientific journals, successful cooperation with the economy, local community and international partners, etc.).

Additional criteria for the promotion of teachers reflect the strategic goals of the higher education institution.

The Faculty implements teacher promotions through clearly defined criteria that include **scientific productivity, teaching excellence and contribution to the development of the institution, all in accordance with strategic goals**. Through the evaluation of publications in Q1 and Exc. journals, participation in competitive projects and international cooperation, the Faculty encourages the strengthening of research capacity and international recognition.

Teaching excellence is evaluated through **student surveys, mentoring, the quality of teaching materials and the application of modern methods**, including teaching in English and digital tools. Professional development is supported through education, mentoring and involvement in the strategic activities of the Faculty. Transparent promotion procedures include the work of expert committees, criteria known in advance and objective evaluation of candidates. Participation in the work of Faculty bodies, international mobility and project engagement are especially valued, which further harmonizes individual development with institutional goals. Scientific contribution is monitored through citations, number of publications and project management, and the involvement of doctoral and postdoctoral students contributes to the sustainability of research activities. Through strategic goals, the criteria for recognition in science are defined.

IV.3 The higher education institution ensures support to teachers in their professional development.

The higher education institution has a teacher development plan with defined performance indicators. It sets the priorities for teachers' professional development annually. The criteria for promotion and rewarding of excellence are clear, transparent and consistently applied.

In the last five years, the **Faculty has been systematically developing and implementing a teacher professional development plan as an integral part of a broader human resources management strategy** with the aim of improving the quality of teaching, scientific excellence and professional contribution (Annex IV.3.1.1). It is based on clearly defined goals, criteria and performance indicators, and includes pedagogical development, scientific productivity, international cooperation, mentoring, and participation in projects and curricular development.

Teachers annually harmonize work plans at the level of organisational units, most often through career development interviews and evaluation procedures. Priorities are determined based on the needs of study programmes, student surveys, exam attendance, scientific results and strategic goals of the Faculty. Indicators such as the number and quality of publications (WoS, Scopus), participation in projects, evaluation of teaching excellence, mentoring, participation in professional conferences and contribution to the digitalisation of teaching are continuously monitored.

The criteria for the promotion of teaching staff are clearly defined and harmonized with national legislation and defined by internal acts of the Faculty. They include scientific and teaching excellence, international recognition, social and professional engagement, and contribution to the institution.

The higher education institution has clearly defined the way it supports the teachers in their professional and career development. The higher education institution encourages the transfer of knowledge within the organisation.

By engaging in professional duties, the teachers of the Faculty further develop professionally, connect with the economy and gain practical experience that raises the quality of teaching. The Faculty provides legal and administrative support and regularly informs teachers about the procedures for inclusion in professional work. This also encourages those teachers who have not been active so far to get involved and develop professional competencies related to the quality of teaching. To facilitate the implementation of professional activities, standardized forms (offers, orders, contracts) have been developed and are available on the Faculty's website. The total number of knowledge transfers (41) in 2021 increased significantly in 2022 (48) and 2023 (48).

In order to improve the competencies of teachers, the **Faculty financially encourages teachers to take the Professional Exam for Physical Planning and Construction,** which is defined through the Work Regulations. Within the Ordinance itself, paid leave for taking the professional exam is defined (Decision on financing the professional exam). According to the Ordinance on the Manner of Use and Distribution of Revenues Generated on the Market from the Activities of the Faculty, a part of the total revenues from professional activities is allocated for the improvement of the Faculty's activities (software, investment maintenance, computers, literature), for the improvement of the activities of the organisational unit in which the contractor is employed, and for the improvement of research activities and scientific research and teaching training.

The Faculty continuously develops activities aimed at the professional development of teachers and encourages the transfer of knowledge within the organisation (Annex IV.3.2.1), creating an environment that supports individual progress, collegial cooperation and the improvement of the academic community. A multi-level support system has been established which includes the Office for the Improvement of

Teaching, as an expert and advisory body for the development of teaching competencies, the organisation of teaching and the application of modern teaching methods. The Office regularly organizes training, workshops and mentoring intended for all levels of teachers. Peer assessment, including double assessment, is a strong contribution to teachers' professional development and knowledge sharing within the organisation, which is an important element of validation in the promotion process (Annex III.4.1.13).

The higher education institution promotes and provides opportunities for the improvement of teaching competencies at the institutional level.

In the period from 2020 to 2024, faculty employees participated in a total of 321 workshops (Annex IV.3.3.1). These are scientific, professional, laboratory and teaching workshops intended for professional services. The most represented were vocational education (113), which shows a focus on the development of practical and professional competencies, as well as scientific (103) and teaching education (80). Through clearly structured institutional mechanisms and a developmental culture, the Faculty systematically builds a community of professionals focused on lifelong learning, academic excellence and mutual support. Based on the Dean's Decision, certain funds are annually financed for each scientist that can be used for these purposes.

Within the project *Development of Research Infrastructure on the Campus of the University of* Rijeka, co-financed by the European Regional Development Fund (ERDF) and funds from the Ministry of Science, Education and Sports of the Republic of Croatia, five laboratories of the Faculty of Civil Engineering have been equipped. **All equipment purchased through the RISK project in 2021 was fully transferred to the ownership of the Faculty**, which created stable preconditions for the long-term use and management of the research infrastructure. During the implementation of the project, teachers received training in the use of each unit of equipment, which further strengthened their capacities for scientific research and enabled direct connection with the needs of the economic sector. Regular procurement of new and maintenance of the existing laboratory equipment is carried out through ongoing scientific and professional projects. **By implementing laboratory tests in teaching processes**, the quality of teaching has been improved and a constructivist approach to teaching has been encouraged, based on active learning through practical work.

The use of the sabbatical study year for teachers and scientists is based on Article 46 of the Constitution. ZVOZD (Official Gazette 119/2022) and the Ordinance on the free study year (sabbatical) of the Faculty of Civil Engineering in Rijeka. Teachers can use sabbatical once every seven years, after six years of work at the Faculty in a scientific-teaching position. Currently, no teacher has used a sabbatical year so far.

The higher education institution ensures and encourages the development of teaching skills.

In addition to investments in physical infrastructure, **the Faculty systematically develops the digital competencies of teachers**, taking into account digital transformation as a key component of modern education. Over the last five years, numerous trainings and workshops have been conducted that covered **the application of e-learning systems** (Merlin, MS Teams, Zoom), **the use of AI technology, the creation of digital teaching materials, BIM software, CAD tools, 3D modelling, online student evaluation, and cyber security and data protection**. Through the Office for the Improvement of Teaching and the IT service (University Information Centre, SIC), the Faculty provides technical and advisory assistance to teachers, providing individual consultations, development of digital solutions and guidelines for digital pedagogy. This support was crucial during the pandemic, when most classes switched to online platforms (e.g. the workshop entitled "*Emotional functioning of students and teachers of the University of Rijeka during the COVID-19 pandemic*", the online workshop "*Programmed learning in a hybrid or online course in the Moodle system*", etc.). List of scientific, teaching and professional education in 2020 As. is given through the following link.

The higher education institution encourages improvements of teachers' competences based on gathered and analysed feedback on the effectiveness and efficiency of their work (teacher self-assessment, peer observation, student surveys, focus groups, etc.).

Teachers' competencies are improved at workshops, training, webinars, etc. Key methods include student surveys, self-assessment, collaborative assessment, focus groups and other forms of interaction with students and staff, with the aim of identifying areas for improvement and encouraging professional development. The results of the student survey are used to analyse teaching and produce annual evaluation reports, and offer specific guidelines. Teachers with relevant negative student surveys enter the annual monitoring process (example in Annex IV.3.5.1), which includes self-evaluation, additional evaluation of work by students and teachers, referral to the improvement of teaching competencies and other measures aimed at improving the quality of work in teaching.

Collaborative assessment is an important element of improving the competences of teachers at the Faculty, which is prescribed and carried out as part of the promotion process to a higher position, and more often if necessary (Annex IV.3.5.2, example in Annex IV.3.5.3). Collaborative assessment also includes self-observation as an essential element of the entire procedure. According to the recommendations in the last re-accreditation procedure**, a double assessment is also carried out**, first as a pilot project and now as part of a collaborative assessment (procedure, report and examples of double assessment Annex III.4.1.13).

The higher education institution encourages the participation of teachers in international mobility programmes, collaborative networks, etc.

The Faculty has been actively encouraging the participation of its teachers in international mobility programmes through the Mobility Office (Erasmus+, Ceepus and Yufe) and collaborative networks over the last five years. In order to increase the mobility of teachers, 19 new Erasmus+ cooperation agreements and 2 new mobility agreements within the CEEPUS programme have been signed since October 2019. The Faculty participates in two new CEEPUS networks that contribute to international cooperation and the development of teaching and research competencies in the field of civil engineering and environmental engineering. The first network, "*Research and Education of Environmental Risks*", is focused on educating students on modern methods of analysis of natural hazards such as earthquakes, floods, droughts and landslides, while the second network, called "*Green Buildings as Solutions to Achieve Sustainable Environmental goals*", focuses on sustainable construction and environmental engineering, more specifically energy efficiency of buildings, renewable energy sources, water management, resources and water quality.

Table 4.4 provides **a list of teacher and associate mobility in the last 5 academic years**. A total of 133 outgoing and incoming mobilities were made in the given period. The most common are teaching outgoing (33) and incoming (43) mobilities lasting up to 3 months. The total number of scientific incoming and outgoing mobilities is 29, while the number of professional incoming and outgoing mobility is 28.

Faculty employees are regularly informed about competitions, the organisation of Info Days for ERASMUS+ and CEEPUS mobility programmes, and **presentations of ERASMUS and CEEPUS coordinators and teachers** are organized through Mobility Days. Efforts are made to **establish contacts with foreign universities and the incoming mobility of teachers from abroad is encouraged**.

The higher education institution encourages and supports the participation of teachers in international and national competitive projects.

The strategic goals of the Faculty defined for the period 2024-2028 (Annex IV.3.7.1) focus, among other things, on scientific excellence, **competitive project funding** and cooperation with foreign partners. Within the framework of the Strategy, the Faculty has defined specific goals: **increasing the participation of the Faculty in competitive project financing** and **increasing applications for competitive projects** in order to encourage the participation of teachers in international and national competitive projects. In addition,

during the evaluation period, the Faculty carried out a reorganisation of the structure to secure a new position **of Vice-Dean for Projects and Collaboration**, which was approved by the Ministry of Science and Sports at the beginning of 2024. The responsibilities of the Vice-Dean for Projects and Collaboration mostly include activities related to informing and encouraging the participation of teachers and providing support in the application and implementation of competitive projects (Annex IV.3.7.2).

In 2024, the **Project Support Centre was established**, which provides administrative and advisory support to teachers in all phases of project activities, regularly informs about the tender conditions, provides assistance in applying for projects and provides support during their implementation. The Centre currently employs one expert associate with many years of experience working on competitive projects. The Faculty continuously informs teachers about open competitions and closely cooperates with **the Centre for Support for the Preparation of Competitive Scientific Projects (CPP) of the University of Rijeka** on information, organisation of workshops, information days (info day 1, info day 2, info day 3) and providing support to project applications. One of the activities of the CPP is the mentorship of experienced scientists for writing scientific projects, and the Faculty scientists also participate in the role of mentors. CPP also provides the opportunity to view successful project applications to all teachers through the Project Reading Room. In the future, therefore, an increase in involvement in competitive projects is expected, and progress in the number of applications for national and international calls for scientific projects is already visible. In 2023 and 2024, a record number of applications from the Faculty to international tenders from the Horizon Europe programme (4) and the Interreg cross-border cooperation programme (8) and for the financing of national projects of the Croatian Science Foundation (10) were recorded.

IV.4 The premises, equipment and the complete infrastructure is suitable for teaching, scientific/artistic and professional activities.

The higher education institution plans and improves the infrastructure development in line with the strategic goals.

The Faculty has a modern infrastructure that enables the performance of all teaching and scientific research activities in a single location. The building includes 20 lecture halls, 6 rooms for student activities, and 9 teaching laboratories/practical training rooms. Laboratories and practical training rooms are equipped through the project "*Development of research infrastructure on the campus of the University of Rijeka*", funded by the EU and the Republic of Croatia (Table 4.5, Table 4.6). The Faculty continuously invests in laboratory and computer equipment, regularly maintains infrastructure and analyses spatial capacities to ensure optimal working conditions, in accordance with development goals. Its Development Strategy (Faculty Development Strategy 2024. – 2028.). This segment includes the maintenance and improvement of technical, technological and infrastructure systems. This includes the purchase and maintenance of computer equipment such as desktop and laptop computers and projectors, as well as the procurement and upgrade of software packages for teaching, scientific research and professional work.

The Faculty has been operating at Radmile Matejčić 3 since October 24, 2011 in a new building within the University Campus in Trsat. The building is the property of the University of Rijeka (Annex IV.4.1.1), while the Faculty is its user (Usufruct Agreement, Annex IV.4.1.2). The Faculty space is described in Table 4.5. The Faculty has 20 lecture halls (1729.05 m^2), 9 laboratories and practical training rooms (1,354.8 m^2) and 2 other teaching spaces (53.15 m^2). The total space intended for teaching is 3,136.99 m^2. The Faculty has 6 rooms for student activities (304.27 m^2), 60 teachers' offices (968.65 m^2) and 20 offices of professional services (528.68 m^2). There are five laboratories at the Faculty with a total net usable area of 935.02 m^2 equipped within the RISK project with equipment with a purchase value of more than EUR 26,540 (Table 4.6).

The Faculty has a total of 8,816.35 m^2 of gross developed building area. It has six floors, of which two are underground floors with a garage and four above-ground floors (P + 3), and the total gross developed area of the building (including the garage) is 14,254.00 m^2 (Annex IV.4.1.3). The Faculty is continuously improving laboratories, procuring capital equipment with the help of funds from scientific research projects, the Ministry of Science and Education and the European Regional Development Fund.

Desktop and laptop computers, projectors and other computer equipment necessary for teaching and administrative work are purchased. The Faculty provides modern software for the needs of teachers and students, and the administrative staff uses appropriate information systems. Technical and user support is provided by the University Information Technology Centre (SIC), which maintains the computer network and systems of the Faculty, ensuring quality teaching and research. In order to improve working conditions, the Faculty regularly reviews spatial needs and, for example, repurposed room G-339 into two new offices for assistants and doctoral students with a total of 12 workstations.

The higher education institution ensures a minimum of 1 m^2 of space per student.

In November 2011, the Faculty moved to a new building on the University Campus in Trsat, which significantly improved the spatial conditions (Annex IV.4.1.3). According to data from the academic year 2023/2024, 721 students studied at the Faculty. Taking into account the total area of the building corresponding to the teaching activity (3,137 m^2, Table 4.5), this results in 4.35 m^2 per student, which significantly exceeds the minimum standard of 1 m^2 per student. If we take the share of square footage and teaching cabinets (in which regular consultations and inspections, as well as consultative classes are held) together with classrooms, laboratories and practical training rooms (4,106 m^2), **then the square footage per student is 5.69 m^2** (Table 1c). The data indicate that the Faculty continuously provides adequate spatial capacity per student, adjusting enrolment quotas and optimizing the use of space in order to maintain high standards of working and studying conditions.

The higher education institution has available classrooms, laboratories, i.e. spaces where practical teaching is conducted, a library, an information technology (IT) classroom, offices for teaching staff and offices for employees in professional services.

The space of lecture halls and practical training rooms occupies a total net usable area of 3,137 m^2, which gives the Faculty **a satisfactory level of spatial capacities for teaching** (Table 4.5). The Faculty building enables the complete conduct of all teaching activities at the same location, students and teachers have at their disposal 20 lecture rooms and 3 computer labs, 2 additional spaces intended for teaching, 6 rooms for student activities for independent work of students, graduates and student-to-student tutorials, as well as 5 state-of-the-art laboratories, and a total of 60 teachers' offices (Annex IV.4.1.3). List of classrooms for classes with the required number of desks and students at the Faculty of Civil Engineering in Rijeka in academic year 2023/2024 is given through Annex IV.4.3.1. **All classrooms are equipped with appropriate computer equipment (desktop/laptop, projector and screen)** that enables synchronized interpretation and videoconferencing. Four practical training rooms are used as teaching laboratories, while computer cabinets are mostly used for teaching, with the exception of one that is repurposed for independent work of students. There are 86 computers, or workstations for students, in three computer cabinets. In the last two years, 35 desktop computers, 35 monitors, seven laptops, four projectors and two retractable screens have been purchased. The computers are equipped with specialized software intended for various technical areas such as drawing, computer design, structural calculations, hydraulic engineering, geotechnics, traffic and numerical modelling.

In addition to the reading room with 30 seats, students have at their disposal three rooms for student activities with a total capacity of 50 seats (Table 4.5). In all lecture halls and practical training rooms, there

is a possibility of connecting computers to an unlimited Internet network, and all lecture halls and practical training rooms are equipped with a cooling system.

The offices of professional services include the Dean's Office, the Office of Student Affairs, the Office of Legal, Human Resources and General Affairs, the Financial and Accounting Department, the Quality Service and the Library. The Faculty is continuously improving the equipment and use of space for teaching and research, with special emphasis on technical, laboratory and organisational needs (Table 4.5). The library was supplemented with two new computers, which increased the total number of user computers to 6. Planned personnel management ensures an optimal number of employees per cabinet. In the event of an increase in the number of employees, the expansion or reorganisation of the premises is considered, including the conversion of existing premises and infrastructure investments in new facilities. As a rule, each teacher in the scientific-teaching profession has his own cabinet, while assistants are seated in offices of two. The offices of professional services (20 in total) occupy a total of 528.68 m² of the building's space. All employees have their own offices, except for the Office for student affairs and the library, where two employees are employee.

Classrooms are equipped with seats for students, a lectern and the equipment necessary to present instructional content. Laboratories are equipped with adequate laboratory equipment necessary for research to be conducted for universities and for teaching practical classes. Offices of teaching staff and offices of employees in professional services are equipped with office equipment necessary for the work of teaching staff and professional services.

List of classrooms for teaching with the required number of desks and students at the Faculty of Civil Engineering in Rijeka in the academic year 2023/2024 is given through Annex IV.4.3.1. **All classrooms are equipped with seating for students, a chair and appropriate computer equipment (desktop/laptop, projector and screen).**

In recent years, the Faculty has significantly improved laboratory infrastructure and research capacities, primarily through the project "*Development of Research Infrastructure on the Campus of the University of Rijeka*", financed by the European Regional Development Fund and funds from the Ministry of Science. As part of the project, new equipment was purchased for five laboratories (Table 4.6), and teachers underwent training regarding its use, which provided support for scientific research and cooperation with industry. Through this project, **47 pieces of capital equipment were purchased** (Table 4.6). At the same time, through national and international projects, including HRZZ and EU funds, continuous investments are made in the maintenance and modernisation of equipment.

All offices are equipped with IT equipment, air conditioning, adequate lighting, and are connected to the Internet. Desktops and laptops are connected to network devices for copying/scanning/printing. On each floor of the Faculty building there is one such device for the needs of employees. There are two types of offices. Larger offices are intended for the work of assistants (mostly two in the office), while smaller offices are intended for teachers in the scientific-teaching workplace. **The Faculty has invested additional funds for the decoration of the doctoral student room (G-339)** on the 3rd floor of the building. Adequate facilities are provided for teaching and administrative staff, technical service and student support, equipped with the necessary devices such as computers, printers, internet connection and air conditioning.

In the last five years, significant infrastructural improvements have been carried out, including the repair of the glass elevator, lifting the platform of the wheelchair lift, landscaping and interior design, the renovation of numerous office and laboratory spaces, and the purchase of new office and non-office lounge set for employees and students. All of the above aims to ensure optimal conditions for all employees and students.

The higher education institution has ensured that an adequate supply of computers is available to students, as well as wireless internet access in all rooms intended for students.

The Faculty has an adequate number of computers for students and wireless access to unlimited Internet access in all rooms intended for students. All lecture halls at the Faculty are equipped with a laptop on the teacher's desk, a projector and a retractable screen. The Faculty has **three computer labs with a total of 86 desktop computers** that are intended for teaching and the needs of students outside of class. All computers are equipped with specialized computer programmes for drawing, structural design calculation and other engineering applications. The Faculty continuously acquires new desktop and laptop computers and replaces computers older than five years, as well as additional audio-visual equipment such as projectors and retractable screens. The library is equipped with six computers for students. The Faculty regularly conducts computer diagnostics and upgrades in the library to ensure the smooth operation for students. The Faculty participates in Carnet's e-university project, one of the goals of which is to improve the digital teaching infrastructure.

All rooms at the Faculty are covered by wireless Internet access, namely the Faculty network (GRADRI) and the University network (UNIRI). In all premises of the Faculty, it is also possible to connect to the Internet using the CARNET network through a valid AAI@Edu.hr user account. The network that is available to users is called eduroam. The CARNET network enables the connection of the University of Rijeka with an Internet speed of up to 10 Gb/s. In 2024 the Faculty provided three new routers from Carnet's e-university project, with which the Internet connection and access were significantly improved almost across most of the Faculty's premises (significant improvements in the WiFi network). The modern infrastructure of the Faculty and the presence of the university network provide stable and fast access to the Internet, which is provided in all key areas of the Faculty.

The higher education institution uses appropriate technologies that support all teaching and scientific needs.

In the last five years, the Faculty has significantly improved its technological infrastructure to support teaching and scientific research. Through the project financed by the European Regional Development Fund, the existing research equipment was modernized, especially in laboratories for hydraulic engineering, geotechnics, roads, structures and materials. By introducing an interdisciplinary approach to research, capacities and competitiveness have been increased. **The Faculty continuously supports scientific research through the maintenance and expansion of laboratory equipment, financed through projects** such as IRI 2, HRZZ, Horizon Europe and Interreg, and cooperation with the economy. Despite the efforts, equipment maintenance is a financial challenge that is solved through strategic projects and partnerships with industry. Accreditation of laboratories for additional funding is also planned.

Each classroom has one desktop or laptop computer for teaching purposes. Each faculty employee has one desktop computer (if necessary, one laptop acquired through a specific scientific project). Also, each laboratory has a small number of laptops that it uses for the purpose of testing on a particular laboratory instrument or for the purpose of teaching. The Vice-Dean for Business Affairs 1-2 times a year (if necessary) forwards a call for expressions of interest in the procurement of certain computer equipment to the employees of the Faculty. The Faculty enables the purchase of individual computer programmes for the needs of teaching (from the faculty's funds), and for the needs of scientific research (financed by scientific projects). Thanks to **the cooperation with other components of the University of Rijeka, students and teachers have access to laboratories and equipment of partner institutions**. The use of specialized equipment is also enabled through academic mobility (ERASMUS+, CEEPUS, YUFE). The Faculty provides all Departments and Chairs with equal access to five state-of-the-art laboratories that are integrated into curricula and projects with the economy.

All computer cabinets are equipped with basic equipment for teaching, a desktop or laptop computer connected to the Internet, a projector and a screen. The capacity of computer labs has increased by almost 40% in the last two years, including a new computer cabinet with a 26+1 workstation. The Faculty is also in the process of procuring audio-video equipment through Carnet's e-university project, and work is also underway to improve the internet connectivity in the entire facility. The plan includes the procurement of high-performance computers, software tools, virtual simulations, artificial intelligence tools and digital laboratories.

The space, equipment and the entire infrastructure (laboratories, IT services, work facilities, libraries, reading rooms, studios, galleries, multimedia halls, teachers' offices, warehouse, etc.) are appropriate for the delivery of study programmes, and they ensure the achievement of the intended learning outcomes.

The Faculty continuously improves infrastructure, equipment and premises in order to ensure quality teaching and the achievement of learning outcomes (Table 4.6). In the last five years, it has significantly modernized resources, which has improved the conditions for teaching, research and professional work. The total area of all 20 lecture halls is 1,729.05 m², while 5 laboratories (for conducting scientific research) and 4 practical training rooms (for teaching purposes) occupy 1,354.79 m². The total area intended for teaching is 3,137 m², while the total area of library space is 180 m² (Table 4.5). Teaching facilities include lecture halls for 20 to 90 students, state-of-the-art laboratories, computer labs and a library with an extensive library collection (Table 4.7). **Multimedia halls are used for conferences and recording of teaching materials, and cabinets for teachers' scientific work.** The university invests in IT infrastructure. All spaces have high-speed internet, licensed software, and access to digital platforms such as Moodle. The space is accessible to people with disabilities, and security systems are regularly maintained. Space optimisation is carried out according to the number of students and quotas, with digital reservation and repurposing of less used rooms, which contributes to efficiency and flexibility.

The Faculty procures high-performance computers and specialized devices with the support of SIC, and through EU projects, the procurement of modern equipment, digital solutions, Cloud technologies and virtual laboratories is enabled, thus enabling students and researchers to work in modern conditions.

The space, equipment and the entire infrastructure (laboratories, IT services, work facilities, etc.) are appropriate for the implementation of scientific/artistic and professional activities.

The space of the Faculty is sufficient for the implementation of scientific and professional activities. Namely, **the Faculty has five laboratories and four** practical training rooms **with a total area of 1,354 m²** (Table 4.5) and **60 teachers' offices with a total area of 968 m²**. Almost every teacher in the scientific-teaching profession has their own office, while two associates share one larger office. Teachers in the offices have all the necessary IT equipment and infrastructure: a desktop computer, one to two monitors, a laptop, a telephone, access to high-speed Internet (the Faculty is directly connected to the CARNET network with a speed of 100 Gb/s) and network devices for printing/copying/scanning on each floor. The University Information Centre (SIC) is in charge of planning, installing and maintaining IT equipment.

The Faculty's laboratories are equipped with appropriate research equipment for each of the research areas. **Catalogues of laboratory equipment** are given in Annex IV.4.8.1, and a **list of capital equipment** is given in Table 4.6. The Ordinance on the Use and Maintenance of Laboratory Equipment prescribes the recording and labelling of equipment, the use of equipment, the distribution of income from the use of equipment, equipment management, equipment maintenance, equipment insurance and documentation for the use of equipment. The Faculty is continuously improving laboratory equipment in order to ensure quality conditions for scientific research and teaching. The condition of the equipment is regularly monitored and the need for new devices is determined, especially as part of new projects. The purchase of additional equipment is financed from national and international sources, bringing the laboratories into line

with the latest standards. The procurement is based on feedback from teachers and researchers, allowing the purchase of equipment that meets real needs. Faculty teachers also have **the Bura supercomputer** at their disposal for scientific and professional activities within the Centre for Advanced Computing and Modeling. According to the list of the fastest computers in the world TOP500 from November 2015, the Bura supercomputer is in 440th place with a peak performance of 287 TFlops.

The library is also one of the essential elements of the scientific research infrastructure, with a total area of 180 m², two employees and a large collection of books, textbooks, journals and databases (Table 4.7). Regarding scientific activities, the RapidILL interlibrary loan service should be highlighted, since it enables the delivery of digital documents (articles and book chapters) from over 500 world university and higher education libraries, which provides access to almost all scientific papers published in journals. More details about the library are given in the next chapter.

IV.5 The library and library equipment, including access to additional resources, ensure the availability of literature and other resources necessary for a high-quality of study and scientific-teaching/artistic-teaching activities.

The library, its equipment and access to additional facilities ensure the availability of literature and library services for the purpose of conducting the study programmes and scientific/artistic and professional work (availability of teaching literature and literature for scientific/artistic and professional work, availability of ICT facilities, access to the library holdings in print and/or in electronic form).

The **library** has 10,739 volumes of books, 1,558 volumes of foreign and domestic professional and scientific journals from earlier and recent years, 3962 evaluation papers in printed format and 1,503 evaluation papers available in the Faculty repository (Table 4.7). **The library space** of 180 m² consists of two separate storage spaces for library materials and a workspace for library staff, and a reading room. The library is equipped with **6 user computers for work in the reading room**, a photocopier and scanner, a computer for processing and lending materials with a smart X card reader and a scanner, and two computers for library employees, one device for book barcoding and an associated scanner. There are **30 workstations in the reading room for individual work of users**, using library or their own literature, as well as using library resources that are non-circulating.

In addition to reading room work, the library provides users **with the services of lending materials, searching catalogues and databases, informing about study literature**, referring to sources of information, thematic search, photocopying of materials that are non-circulating. The library regularly holds trainings for effective search of online sources of information through workshops where participants are introduced to the tools, techniques and strategies of information search. The library also holds other workshops of interest to students and teaching staff (e.g. selection of journals for publication of papers, proper citation, copyright, use of CROSBI and Dabar systems). Reports on scientific production and work on scientific projects in 2023. The Library prepares **bibliometric certificates for election to the title**, certificates for the purposes of project applications and re-accreditation of the institution, and participates in the preparation of the Report on the Scientific Production of the Faculty.

It regularly conducts **annual analyses of the state of the fund** and examines the needs for new literature, on the basis of which annual procurement plans are prepared. Based on the needs analysis, 871 volumes of books and 103 volumes of journals were acquired. Guidelines for the construction and management of library collections have also been developed, which define the procedures for the acquisition, financing and evaluation of library collections. Copyrighted material (2 titles) has been digitized, and the number of items available in open access in the institutional repository has been increased by 276 items. A library management plan has also been developed, which is part of the Ordinance on the Preservation and Protection of Library Materials. The plan for 2026 is to improve services and access to library resources in

the form **of the implementation of an additional online service and the possibility of digital access to library resources remotely**. The new Library website with links to useful resources has been edited and instructions for their use have been created. All final, graduate and doctoral theses are stored in a digital repository in open access (since 2019), and other types of papers (books, papers in journals, etc.) are also stored in the repository.

The head of the library is a member of the Working Group for User Functionalities of the Dabar Digital Repository System and has actively participated in the development of the new user interface, which should be implemented in 2025. The library has provided users with the **RapidILL** interlibrary loan service, which enables the delivery of digital documents (articles and book chapters) from over 500 university and higher education libraries around the world. The institutional repository enables the publication of research data, which automatically become part of the UNIRI Digital Library and available for search.

According to the latest analysis for academic year 2022/2023, students of the Faculty of Civil Engineering evaluated *the Availability of literature and other learning materials (library equipment, working hours,...)* with a score of 4.5. Librarians of the Faculty regularly attend workshops, webinars and other types of training through the Centre for Continuing Professional Development of Librarians in the Republic of Croatia, as well as other platforms. On average, in the reporting period, the number of hours per librarian was 19.75 hours per year.

The library premises and resources, including additional resources, meet the conditions for a high-quality study in accordance with, among other things, the conditions stipulated by the Standard for Higher Education, University and Scientific Libraries (Official Gazette, 81/22).

In 2023, **the library** adopted a new Work Ordinance which, like other library documentation, is aligned with the new Act on Libraries and Library Activities (Official Gazette 114/2022) and the Standard for Higher Education, University and Research Libraries (Official Gazette 81/2022). In 2021 an additional person was hired for the position of assistant librarian. The Library, in cooperation with the University Library in Rijeka, has enabled the acquisition of electronic materials through the ProQuest platform.

In the reporting period, the Library created 2397 new catalog records in the Crolist system. The library participates in the procurement of a new library system at the national level, which will be implemented in 2025. The Faculty is not independently subscribed to **bibliographic and** full-text databases, so the library directs users to the link for databases that are subscribed at the national level through the Ministry of Science, Education and Youth of the Republic of Croatia. **The library catalogue** can be accessed via the Faculty Library website (Table 4.7). The catalogue is part of the Crolist Collective Catalogue of Libraries of the University of Rijeka.

The higher education institution ensured literature needed for teaching as well as research and professional activity.

The Faculty has provided teaching literature and literature intended for scientific and professional work. The Faculty Library, in cooperation with the University Library of Rijeka, enables the acquisition of electronic materials through the ProQuest platform. Copyrighted material was digitized (2 titles), and the number of objects available in open access in the institutional repository was expanded by 102 items (Table 4.7). The total number of available books is 10,739, the total number of titles of compulsory literature textbooks is 262, while the total number of copies of compulsory literature textbooks is 1,292. The library has a total of 1,558 printed journals in its collection, while the number of electronic journals with access to complete texts that the Faculty subscribes to with its own funds is 2. Employees and students have at their disposal 11,626 electronic journals that they can access, while the total number of bibliographic databases that they can access has increased to 18 (Table 4.7). The number of interlibrary loans rose to 92 in 2024, compared to 8

in 2018. Since 2021, a **regular annual write-off of library materials** has been carried out. In the reporting period, 1,235 obsolete, lost or worn-out titles were written off in this way.

Students and teachers have access to ICT resources.

The Faculty Library has 6 user computers and 3 employee computers. Employee computers are connected to printers. The University Information Technology Centre (SIC) is responsible for the update. User computers in the library are equipped only with Office tools, i.e. Libre Office on Linux. The Faculty procures computer equipment for the needs of the library through simple or public procurement of computer equipment 1-2 times a year according to needs. In the last five years, the Faculty has actively implemented the Merlin e-learning system, providing students and teachers with a platform for the distribution of teaching materials and communication. In order to ensure quality online teaching, the faculty adopted the recommendations of the University of Rijeka for behavior in the online environment and the framework for the development and assessment of e-courses. Teachers have access to suggestions for online teaching tools, instructions for using Zoom educational licenses, as well as recommendations for holding online classes. Through three computer cabinets, students have 86 desktop computers at their disposal for teaching purposes. Each teacher and assistant at the Faculty has their own desktop computer, and if necessary, the Faculty can provide additional laptops from Carnet's donation (a total of 25 computers).

During the COVID-19 pandemic, the University of Rijeka developed a detailed model of teaching that includes the possibility of hybrid implementation. According to this model, a corresponding e-course was created for each course on the Merlin platform, allowing teachers to upload materials and monitor student activities. The faculty funded a package of **16 educational Zoom licenses**, which were used as virtual classrooms, information on available free platforms for communication and remote collaboration. Part of the teaching and management processes was digitized using Office 365 Sharepoint, One Drive, etc. The Sceduly platform was introduced to record the schedule of classes and the occupancy of the premises. The PROVIS system for the digitalisation of teaching processes has been introduced. The teachers' portal and ISVURI are used to monitor the status of enrolled students in courses, register for exams and enter grades, as well as record mentors, topics and assignments on final and graduate theses. The Faculty is involved in **the development of e-infrastructure and the use of computer technologies in teaching** through the University Computing Centre (SRCE) and the Croatian Academic and Research Network Carnet.

Students and teachers have access to library materials in print and/or electronic form.

Students have at their **disposal 10,739** books, 262 titles of compulsory literature textbooks, and 1,558 printed journals from the library collection. The total number of electronic journals to which employees and students have access is 11,626 (Table 4.7). If we take into account 1,292 copies of compulsory literature within the library collection, and the current number of 800 students at the Faculty, then this amounts to 1.6 copies per student. The number of final, graduate, specialist, and doctoral theses stored as of December 31, 2024 in the Dabar repository is 1,053, which is 100% compared to the number of people who have completed their studies at the Faculty of Civil Engineering since 2015, when data entry into **the repository began**. From the years preceding 2015, previous works of all persons who completed their studies at the Faculty of Civil Engineering are stored in printed form in the Faculty library. All relevant information about the work of the library and the work in the library can be found on the link of the Faculty library website. On its website, the library refers to other digital resources and regularly carries out trainings for their use. All papers stored in **the institutional repository of the Faculty** (more than 1,700 items) automatically become part of the UNIRI digital library. The Library regularly publishes and encourages the publication of papers in the institutional repository (instructions are published on the website), and all evaluation papers published in the repository since 2019 are available in open access. The library's reading area is open to users 39 hours a week, and the duty is performed by two employees.

The library and library equipment, including the additional resources, meet the conditions for a high-quality study.

The equipment of the library is satisfactory according to the statistics from Table 4.7 and the data given in the previous indicators. A sufficient number of compulsory literature required for courses of study programmes at all levels is continuously procured. Every year, the library is additionally equipped with new materials according to the needs of teachers based on the literature in their courses. From 2019 to 2023, 141 book titles in 303 copies were purchased for teaching purposes.

The Faculty Library conducted **a series of workshops with specific topics adapted to a certain type of user**. For first-year undergraduate students, workshops on the use of the Library and online resources are organized every year, and for doctoral students, workshops on database search, citation, journal selection, etc. Workshops are regularly held for teachers in accordance with the topics of their interest (e.g. the use of the CROSBI system and the Dabar repository, copyright, visibility of scientific work, etc.). The Library also publishes accompanying manuals and instructions on its website, as well as regulations and instructions for the use of the library and other information materials. An online form has also been developed for the Request for Certificate of Returned Material and Settled Liabilities.

The library and library equipment, including the additional resources, ensure a high quality of scientific-teaching / artistic-teaching activities.

The Library provides support in **the use of databases with a national license** and other relevant online resources, and regularly informs teachers about free trial access to databases at the national level and the level of the University of Rijeka (Tables 4.7). It prepares bibliometric analyses and certificates related to the scientific productivity of employees and institutions. In 2024, 46 such certificates were produced (Annex IV.5.8.1). Library employees regularly submit data for multiannual programme funding and update data on scientific productivity in relevant databases, carry out **verification and validation of metadata** in the CROSBI system, ensuring the accuracy of records of published publications, conduct analyses to harmonize data from CROSBI with other relevant databases. The library provides support in the publishing activities of the Faculty, assigns classification codes, administers ISBN, ISSN and DOI numbers, and the library employees participate in the work of the Publishing Committee and the Editorial Board of the Proceedings of the Faculty of Civil Engineering. The Library is in charge and responsible for editing, publishing and disseminating printed and digital editions of the Proceedings. Library staff regularly hold workshops for teachers and external associates (example), workshops for students on database search and citation**,** and workshops for the preparation of final and graduate theses.

IV.6 The higher education institution provides the necessary financial resources to conduct teaching, scientific and professional activities.

The higher education institution has prepared a financial plan which includes the planned income and expenses to conduct higher education activity and professional activity over a three-year period (the financial plan of a university or a faculty, or an arts academy or a polytechnic/university of applied sciences should comprise the planned income and expenses to conduct research activity, or artistic and professional activity).

The Faculty is **a budget user for whose operations funds are provided from the State Budget of the Republic of Croatia**, and most of the revenues are revenues from the said budget. The Faculty prepares a financial plan for the next year and a projection for the next two years in accordance with the assigned limits and deadlines for activities. **The financial plan** and activities from the state budget were made according to the Instructions for the preparation of the state budget proposal and the submitted limits of the University budget (Annex IV.6.1.1, Annex IV.6.1.2, Annex IV.6.1.3). All previous plans for three-year periods starting in

2019 are publicly available on the Faculty's website. Financial plans contain planned revenues and expenditures for the performance of higher education and professional activities for a three-year period. **The financial operations of the Faculty for the three-year period** are planned to take place through the activities of regular activities and programme financing (Annex IV.6.1.4).

The public higher education institution has provided evidence of sufficient funds to deliver the study programme, in the form of a signed programme agreement or a projection of income from tuition fees or other sources.

The Financial Plan for Activity A622122 – Programme Financing of Public Higher Education Institutions – presents the means for financing teaching activities, financing scientific and artistic activities and financing various scientific research grants based on the limits obtained from the University of Rijeka. **The University of Rijeka** disburses programme funds on the basis of the Programme Financing Agreement, and the main purpose of these funds is the normal conduct of teaching and scientific activities. Programme funding for 2024 amounts to EUR 299,396.00, for 2025 to EUR 316,808.00, and for 2026 to EUR 331,577 (Annex IV.6.1.4). **Activity A679089** – regular activity of the University of Rijeka from record revenues amounts to EUR 755,190 from all sources of funding for 2024. The projections for 2025 are EUR 713,690.00 and for 2026 EUR 718,690.00 (Annex IV.6.1.4).

Financial sustainability and efficiency are evident in all aspects of the higher education institution's activity.

The total income of the Faculty of Civil Engineering (operating income and income from the sale of non-financial assets) for 2023 amounted to EUR 3,651,726.26 (Table 4.8). Of this, 73.36% is the budget revenue remitted from the state budget, 10.37% are revenues according to special regulations such as tuition fees, income from own activities, professional projects, while the rest is other revenues. **Total budget expenditures** amounted to EUR 3,648,414.92, of which the largest part 78.09% was salaries and other expenditures for employees, and the remaining part was related to operating costs, non-financial assets such as computer equipment, books and other. The surplus of revenues and receipts of the Faculty available in the next period at the end of the budget year 2023 amounted to EUR 713,347.08, taking into account the surplus of revenues and receipts carried over from previous years. Compared to the previous year, the Faculty has an increase in revenues by 9% as well as an increase in expenditures by 8.10%, which includes operating expenses, expenditures for the acquisition of non-financial assets and expenditures for surety deposits. This shows a high degree of ability of the Faculty to provide all the necessary funds for its business and achieve a positive business result.

The higher education institution manages its financial resources transparently, efficiently and appropriately.

In order to **maintain high business efficiency** and ensure that financial resources are spent in an appropriate manner in accordance with the needs of the Faculty, a detailed financial plan of revenues and expenditures for the next year and projections for the next two years are prepared every year. Every year by 31 January, the Faculty is obliged to prepare **a financial statement** for the previous calendar year with details of revenues and expenditures (Annex IV.6.4.1). In order to ensure **high transparency of financial operations**, the reports are published on the Faculty website (Annex IV.6.4.1). From 2024, the Faculty is also obliged to publish the Public Disclosure of information on the spending of funds for each month, more precisely which expenditures were settled during the month for which the statement is published. The Faculty of Civil Engineering prepares an annual report on the implementation of the Strategy of the University of Rijeka 2021 – 2025, through which it is also possible to monitor the success of the work and operations of the Faculty.

Additional funding sources are used for institutional development and improvement.

The distribution of revenues from market services as well as all other earmarked and own revenues is defined by the Ordinance on the manner of use and distribution of revenues generated on the market from

the performance of the activities of the Faculty (Annex IV.6.5.1). The said Ordinance prescribes that at least 40% of revenues from teaching activities, 20% of revenues from lifelong learning and continuous professional development, 10% of revenues from scientific research, 10% of revenues from professional activities and 60% of revenues from renting premises and equipment shall be spent on the improvement of the activities of the Faculty.

For the purpose of developing and improving teaching, the Faculty annually allocates funds for the purchase of equipment in order to better equip classrooms, the purchase of literature, licenses for various programmes, conducting demonstrations and other for the purpose of improving teaching (Annex IV.6.5.2, Annex IV.6.5.3). It is also worth mentioning the positive example of the use of non-earmarked funds from the scientific project THREAD (Horizon Europe), which, in agreement with the project manager, were used to improve the Faculty in such a way that an additional common room was arranged for the work of assistants employed on projects. Also, it should be noted that in 2024, a new Ordinance on the manner of use and distribution of revenues generated on the market from the performance of the Faculty's activities (Annex IV.6.5.1) was drafted, which defines that part of the unearmarked funds is spent on the improvement of the Faculty.

Additional funding sources are secured through national and international projects, cooperation with the economy, local community, etc.

The Faculty provides additional sources of funding through domestic and international scientific projects, as well as through professional projects, i.e. cooperation with the economy and the local community (Table 4.8). The Faculty carries out professional projects such as the preparation of studies, plans, audits and project control, professional supervision and consulting during construction, laboratory testing and urban planning. The combination of these sources of funding has enabled the faculty to improve research and teaching infrastructure, and strengthen connections with industry and international academic institutions.

Projects are an important additional source of income for the Faculty. In 2022, EUR 329,228 was generated from scientific projects and EUR 200,891 from professional projects, which makes 15.8% of total revenues. In 2023, EUR 365,697 was generated from scientific projects and EUR 144,329 from professional projects, which accounts for 13.9% of total revenues (Table 4.8). The Ordinance on the manner of use and distribution of revenues generated on the market from the performance of the activities of the Faculty (Annex IV.6.5.1) defines the distribution of revenues from scientific projects and professional activities, whereby it is defined that a part of the income is also spent for the improvement of the activities of the Faculty, the improvement of the activities of the organisational unit, the Fund for the Improvement of Research Activities and the maintenance of laboratory equipment.

V. RESEARCH/ARTISTIC AND PROFESSIONAL ACTIVITY

The scientific and professional activity of the Faculty is based on excellence in research, innovative application of knowledge, active cooperation with the economy and the community, and compliance with modern scientific achievements and international standards. The Faculty is recognized as a relevant scientific and professional actor in all areas in which it conducts studies, and its influence is achieved through high scientific production, the development of doctoral education and the consistent application of the principles of open science.

V.1 The higher education institution is recognisable by scientific research and/or artistic achievements in all the scientific fields in which it conducts studies.

The scientific work of the higher education institution is grounded in original ideas and an original scientific approach.

The scientific work of the Faculty in the observed five-year period from 2019 to 2023 is defined **by the Strategic programme of Scientific Research of the Faculty of Civil Engineering of the University of Rijeka for the period 2016 – 2020** (Annex V.1.1.1) and **the Scientific Research Strategy 2021 – 2025 of the Faculty of Civil Engineering in Rijeka** (Annex V.1.1.2), which are aligned with **the Development Strategy of the University of Rijeka 2014 – 2020** (Annex V.1.1.3) and **the Strategy of the University of Rijeka 2021 – 2025** (Annex V.1.1.4) and the objectives defined as part of the visions of organisational units through the conducted SWOT analysis (especially highlighted in Annexes V.1.1.1 and V.1.1.2). The strategic goals of the Faculty are based on global research trends and further development of the institution's key research areas, encouraging multidisciplinarity, strengthening cooperation with the economy and the community, attracting funding through competitive scientific research projects, publishing high-quality scientific papers, strengthening visibility, internationalisation and mobility of researchers.

Once a year, the Faculty submits a **Report on the Implementation of the Strategy** to the University. For the observed period from 2019 to 2023 **Quantitative reports according to the University Development Strategy 2014 – 2020** have been published on the faculty website and **qualitative and quantitative reports according to the University Strategy 2021-2025**. **Reports on the success of the implementation of the Scientific Research Strategy of the Faculty** were published on the same site, and **reports on scientific production and work on scientific projects** can be found at the following link. In addition to the number and quality of published papers, the indicators of success in the implementation of these strategies show the comprehensiveness and progress of scientific activity in which an important contribution is made by increasing the number of projects, strengthening international recognition and internationalisation, cooperation with the economy and regional inclusion, as well as improving the quality of doctoral studies. International recognition of the quality of scientific work at the Faculty is also manifested through the participation of scientists in reputable organisations (example) and editorial boards of journals (Table 5.8), as well as invited lectures (Annex V.1.1.5) and awards (example).

Teams of scientists at the Faculty have gathered around several key research areas that are in the focus of European research topics. Research activities carried out at the Faculty fit into the priority areas of Smart Specialisation in various ways, contribute to the improvement of landslide, earthquake and flood protection, protection and management of water resources, deal with vulnerability and management of coastal areas, climate change problems and their impact on the previously mentioned processes, numerical and physical models of various engineering problems, application of artificial intelligence, challenges of sustainable development, protection of natural and cultural heritage and others. The Faculty encourages the integration of research activities into the needs of the economy, through constant dialogue with external stakeholders and their needs (example).

Through its doctoral studies, the Faculty encourages the education and career development of young scientists based on high and internationally accepted criteria of quality, scientific ethics and originality, as evidenced by the number of defended doctorates and related publications. PhD students must carry out part of their study obligations at an external institution, and the contribution and international significance of their research is confirmed through the condition that the doctoral student as the first author must publish the results of all or part of their own research in at least one original scientific paper in a foreign journal in the Web of Science Core Collection (WoSCC) database.

The number and quality of the higher education teachers' published papers is at the highest level.

From Table 5.1 Bibliography of higher education institutions (in the last 5 calendar years) from the CroRIS report for the re-accreditation of higher education institutions, it is evident that in the observed five-year period from 2019 to 2023, a total of 231 scientific papers in journals, 16 book chapters, 232 papers in conference proceedings and 10 author's books were published at the Faculty. The annual number of published scientific papers according to the WoS database divided by FTE scientists from 2019 to 2024 is 0.82, 0.78, 0.96, 0.89, 0.90 and 0.79. The analysis of the number and quality (Q1, Q2) of papers by organisational units of the Faculty is given in **the reports on scientific production and work on scientific projects**. Annex V.1.2.1 graphically shows the number and quality (Q1 and Excellence) of papers published in that period according to the WoSCC database, where the number of Q1 papers that do not belong to the Excellence category (Q1-Exc) is marked in grey. The total number of Q1 papers is obtained by adding the numbers for Exc and Q1-Exc and it is 12, 14, 8, 11, 7, 14 respectively from 2019 to 2024.

Although it is noticeable that in 2023 and 2024 there was a decrease in the total number of papers, there is a trend of increasing the number and share of Q1 papers, which is the consequence of the fact that teachers and associates, motivated by encouraging and rewarding this aspect of scientific excellence by the Faculty and the requirements when applying for competitive research projects, focus more on the quality rather than the quantity of scientific production. However, given that, unlike Q1, the Excellence category is rarely set as a criterion for assessing scientific excellence (except in reporting on the fulfilment of strategic indicators), a decline was recorded in this category in 2023 and 2024. The Faculty will try to positively influence this trend by introducing special awards for the publication of papers in the Excellence category. It should be noted that the number and quality of published papers by teachers and associates at the Faculty do not deviate significantly from the average data for other constituents of the University of Rijeka, which can be seen from the University's reports on the implementation of the 2014 – 2020 strategy (Annex V.1.2.2) and 2021 – 2025 strategy (Annex V.1.2.3).

Results of research conducted by the teachers significantly contribute to the development of the scientific and/or artistic field in which they are active.

The significant contribution of the research results of the teachers and associates of the Faculty to the development of the scientific field in which they operate can be seen through the citation of papers. The number of published papers and the number of citations according to the WoSCC database are graphically shown in Annex V.1.3.1. As of 2024, 618 scientific papers by teachers and associates of the Faculty have been cited 11,401 times (of which 10,345 without self-citations), with 18.45 citations per publication and an h-index of 46. In the five-year period from 2019 to 2023, 239 publications with 1935 citations (1,727 without self-citations) and an h-index of 21 were recorded. The contribution to the scientific fields in which the Faculty operates is also manifested through completed international and national (HRZZ) projects that have (i) achieved funding through competitive competitions and (ii) received positive periodic and final reports in which the achieved research results are especially evaluated. External experts are regularly included in expert committees for the defence of doctoral dissertations (example), which, in addition to the published scientific papers of the candidate as a condition for defence, confirms the scientific contribution of the results obtained through doctoral studies at the international level.

The higher education institution has a satisfactory number of scientific papers in prestigious primary scientific outlets in its area/field.

In the evaluation period, the Faculty has published a total of 231 scientific papers in journals, of which 143 papers were published in journals that are indexed in the WoSCC SCI-EXP citation index (Table 5.1). Featured publications over the five-year period are shown in Table 5.2. We consider scientific papers published in a journal ranked in the first quartile (Q1) or in the top 10% (Excellence) according to the InCites JCR database of journals indexed in the Web of Science to be a prestigious publication. The number of prestigious publications by year is given in Annex V.1.2.1. As previously commented, there was a focus on the publication of Q1 papers that recorded a trend of growth in shares, especially in 2024 where a significant increase in the share of Q1 papers was recorded compared to the previous 5 years. In order to further encourage scientific excellence, the Faculty established **the Committee for Scientific Excellence** (Annex V.1.4.1) in 2020 and introduced criteria for awarding scientific excellence (Annex V.1.4.2), which particularly value the quantity and quality of published papers published in journals indexed in the WoSCC that belong to at least the second quartile and for papers published in the journal with the highest impact factor indexed in the WoSCC database. Decisions on awarding scientific excellence are given in Annex V.1.4.3, while Annex V.1.4.4 provides minutes of meetings of the Committee for Scientific Excellence. At the proposal of the Committee for Scientific Excellence, the Decision on Determining the Criteria for Annual Awarding (Annex V.1.4.5) entered into force in 2024, on the basis of which the Awards for Scientific Excellence (Science Award and Young Scientist Award) were introduced, in which the number and quality of published papers, the Commendation for Scientific Excellence and the Knowledge Transfer Award are particularly evaluated.

There is a satisfactory number of papers of the higher education institution presented at prestigious conferences.

Teachers and associates of the Faculty regularly present their scientific achievements at conferences in the country and abroad. In the period from 2019 to 2023, they published a total of 219 scientific papers in conference proceedings, which includes original scientific and review (scientific) papers, case reports, previous communications and short communications (Table 5.1, Annex V.1.5.1). For each year from 2019 to 2023, 67, 44, 31, 35 and 43 papers were published, which shows the noticeable negative impact of the Covid-19 pandemic on scientific dissemination through conferences, but also the gradual recovery from 2022 onwards. In the observed five-year period, teachers and associates of the Faculty published 71 abstracts of presentations from conference (19, 6, 10, 22 and 14 for each year from 2019 to 2023) and 35 extended abstracts of presentations from conferences (6, 3, 7, 12 and 7 for each year from 2019 to 2023). Special mention should be made of invited lectures presented by Faculty teachers at prestigious conferences (Annex V.1.1.5). In addition, teachers and associates of the Faculty were active in the work of the organizing committees of various scientific conferences (Table 5.7).

The higher education institution is involved in a satisfactory number of competitive projects.

During the period of evaluation of scientific activity (2019 - 2023) the Faculty was involved in a satisfactory number of competitive projects, which is evident from the list of scientific projects (Table 5.6). At the same time, the Faculty has participated in **62 competitive projects**, **9 international projects**, of which 1 Horizon 2020 (MSCA), 2 COST actions, 3 Erasmus+ projects, 3 bilateral projects (with China, Germany and Slovenia), **6 projects funded by the European Regional Development Fund** (Competitiveness and Cohesion), **7 research projects of the Croatian Science Foundation** (HRZZ), **10 career development projects for young researchers of the Croatian Science Foundation** and **30 projects of the University of Rijeka** (UNIRI projects for experienced researchers, for young researchers, UNIRI Plus, UNIRI CLASS and UNIRI ZIP projects). In addition, the employees of the Faculty participate as associates in four other **HRZZ** projects that are implemented at other institutions (example). During the evaluation period, almost all teachers of the Faculty of Civil Engineering were members of at least one competitive project. Information on all currently active

and completed projects of the Faculty can be found on the website of the Faculty. A list and description of all these projects are presented in Table 5.6.

It should also be noted that the Faculty has participated in several competitive projects in the role of **an external partner**, providing professional and technical assistance to project partners in achieving the objectives and implementation of project activities (e.g. ADRIADAPT, STREAM, VEPAR). In order to encourage applications for competitive scientific projects, the Faculty established **a Vice-Dean for Projects and Collaboration** and in 2024 formed the **Project Support Centre**, which currently employs an expert associate with many years of experience in applying for and implementing scientific projects. The Project Support Centre continuously informs teachers about open competitions and closely cooperates with the **Centre for Support for the Preparation of Competitive Scientific Projects (CPP) of the University of Rijeka** on information, organisation of workshops, information days (info day 1, info day 2, info day 3) and providing support to project applications. One of the activities of the CPP is the mentorship of experienced scientists for writing scientific projects, and the Faculty scientists also participate in the role of mentors. In the future, therefore, an increase in involvement in competitive projects is expected, and progress is already visible in the number of applications to national and international calls for scientific projects - in 2023 and 2024, a record number of applications from the Faculty to international calls from the Horizon Europe programme (4) and the Interreg cross-border cooperation programme (8) and for the financing of national projects of the Croatian Science Foundation (10) was recorded.

The higher education institution organizes scientific conferences that are recognized at the national and international level.

A list of all conferences and workshops organized or co-organized by the Faculty in the period from 2019 to 2023 is available at the link. Among them, the international conferences **5th Regional Symposium on Landslides in Adriatic-Balkan Region** (held in 2022 at the Faculty and organized by the Croatian Landslide Group), **Modern Structures of Metal and Wood** (an annual international conference that has been held since 2022 the Faculty organizes, in cooperation with the Odessa State Academy of Civil Engineering and Architecture from Ukraine), the **International Conference on Highly Flexible Slender Structures** (ECCOMAS Thematic Conference and IACM Special Interest Conference held in 2023 at the Faculty as part of the THREAD project funded through the MSCA ITN programme of the European Commission) and the **9th International Conference on Industrial Heritage** (held in 2023, where, in addition to the Faculty, the City of Rijeka, Primorje-Gorski Kotar County and the Ministry of Culture and Media of the Republic of Croatia) should be highlighted. The Faculty is also involved in the organisation of meetings for young researchers **My First Conference** (since 2017 it has been organized in cooperation with the Faculty of Engineering and Maritime Studies in Rijeka, and it was held at the Faculty of Civil Engineering in Rijeka in 2019 and 2022, where it shall be held in 2025) and the **Meeting of Young Researchers in the Field of Civil Engineering and Related Technical Sciences** (held since 2013 organized by Association of Croatian Civil Engineering Faculties, in 2019 it was held at our Faculty, where it shall also be held in 2025).

The higher education institution teachers participate in the work of committees and other bodies in higher education and science.

The participation of Faculty teachers in the work of committees and other bodies in the field of higher education and science is an important element of institutional culture that significantly contributes to the continuous improvement of academic practice and the development of education and science. In the period from 2019 to 2023, 38 teachers participated in the work of 37 committees and other relevant bodies of higher education and science (Annex V1.8.1). The participation of teachers in the work of the **National Council for Science, Higher Education and Technological Development** is particularly emphasised – as members of the **Scientific Field Committee for the fields of architecture and urban planning, geodesy and civil engineering**. The Faculty had a full member and one associate **of the Croatian Academy of Engineering**,

in the Department of Civil Engineering and Geodesy and in the Committee for Cooperation with the Economy and Regional Cooperation. In addition, one teacher is the secretary of the Academy of Architectural Arts and Sciences (AAUZ) and a member of the Scientific Council for Architecture, Urban Planning and Physical Planning **of the Croatian Academy of Sciences and Arts** (HAZU). The Faculty also had a representative in the Committee for the Distribution of State Awards for Science **of the Ministry of Science, Education and Youth** (Annex V.1.8.2). The Faculty also had representatives in the **Sectoral Council VIII – Civil Engineering and Geodesy** of the Ministry of Science and Education, related to the CROQF (Annex V.1.8.3).

Several teachers of the Faculty are involved in the work of the committees and bodies of the University of Rijeka: the Council for Science, the Expert Council for Research and Innovation of the University of Rijeka, the Expert Council for Learning and Teaching, the Council for Gender Equality and the Doctoral School of the University of Rijeka. In the evaluation period (2019 – 2023), Faculty teachers held the highest positions at the University of Rijeka, such as Vice-Rector for Science and Arts (Annex V.1.8.4) and Assistant Rector for Infrastructure Project Management of the University of Rijeka, i.e. Advisor to the Rector for Infrastructure Projects on the Campus (Annex V.1.8.6). One teacher of the Faculty is the deputy head of the Centre for Cultural Heritage (from 2025 the head), and the other teacher is the deputy head of the Centre for the Popularisation and Promotion of Science of the University (Annex V.1.8.8). All these activities confirm the Faculty's commitment to maintaining high standards of academic integrity and expertise, as well as its active role in the development of the higher education and science system.

External collaborators are recognized as experts in their fields, they have published adequate scientific or professional papers, and have the appropriate work experience.

Although the Faculty covers most of the teaching with its own staff, external associates are involved in teaching at all levels of study (university undergraduate and graduate, professional undergraduate and graduate and doctoral studies). They are active as course holders (lecturers) and as assistants in charge of auditory exercises and seminar papers. In the period from 2019 to 2023, a total of 40 external associates participated in teaching at the Faculty, of which 18 in the university undergraduate study, 9 in the university graduate study, 12 in the professional undergraduate study, 10 in the professional graduate study and 3 in the Doctoral study (some external associates participated in teaching in several studies). For the observed period**, the plans of external cooperation** adopted by the Faculty Council for each academic year are given in Annex V.1.9.1, and the CVs of external associates with a list of works in the last five years are given in Annex V.1.9.2.

Through external cooperation, the Faculty compensates for the lack of its own staff and includes recognized experts or scientists with expertise that is not sufficiently represented at the Faculty. Engaged external associates possess relevant work experience and recognized expertise in their fields, making them valuable contributors to the Faculty's educational and research work. Among them there are prominent and internationally recognized scientists (Zoran Ren, Suzana Ilić), top experts and successful entrepreneurs (Mirko Grošić, Nebojša Buljan, Gorana Stipeč Brlić), representatives of local self-government (Koraljka Vahtar Jurković, Rosanda Ivetić Salopek) and award-winning teachers (Željka Ivković Hodžić, Tin Zrinski, Nina Mostarac). External cooperation is regulated by temporary service contracts (examples in Annex V.1.9.3) or collaboration agreements for teaching with the Faculty of Mathematics and the Faculty of Physics in Rijeka (Annex V.1.9.4).

The higher education institution teachers participate in the editorial boards of scientific journals.

Faculty teachers actively participate in the work of editorial boards of numerous scientific journals, thus contributing to the processes of review, coordination and publication of scientific papers. The list of journals in whose editorial boards they participate is presented in Table 5.8 and Annex V.1.10.1. In the evaluation

period, from 2019 to 2023, 39 teachers were involved in the work of the editorial boards of a total of 20 scientific journals, of which 6 were special editions in international journals. Of these journals, 15 are indexed in the Scopus database, and 14 in the Web of Science database. It should be noted that the Faculty teacher is the **Deputy Editor-in-Chief** of the prestigious journal **Landslides** published by Springer (Q1, 5-year IF 6.9, Annex V.1.10.2). Several Faculty teachers have been guest editors of international scientific journals indexed in the WoSCC database, such as **Advances in Civil Engineering**, **Multibody System Dynamics**, **Sustainability** and **Water**. These activities of the Faculty teachers ensure a high level of quality and relevance of published papers, encourage academic excellence and contribute to the development and dissemination of knowledge in specific scientific fields.

The higher education institution has an organised publishing activity and it is the publisher of scientific publications that are nationally and internationally significant and recognisable.

The Faculty has organized publishing activities regulated by the **Ordinance on Publishing Activities of the Faculty of Civil Engineering in Rijeka** (Annex V.1.11.1). The Ordinance defines the composition and work of the **Committee for Publishing Activities**, which is an expert body of the Faculty in charge of improving the publishing activities of the Faculty and for adopting and implementing procedures related to the procedure of publishing works. Each edition must meet the categorisation criterion, the technical criterion (the edition must contain the given elements in accordance with the Ordinance), the quality criterion (it is achieved through the review process) and the location criterion (the edition must be previously accepted by the Faculty Council). Special attention is paid to collecting, preserving and ensuring the visibility of the Faculty's publications, which is the responsibility of the Faculty Library. As part of its publishing activities, the Faculty publishes proceedings, scientific and professional journals, editorial books, monographs and other publications in the field of civil engineering and related technical and natural science disciplines. The publications are published in electronic and printed form, partly in cooperation with other scientific and educational institutions.

The Faculty is the publisher/co-publisher of two journals. **The Proceedings of the Faculty of Civil Engineering in Rijeka** is an annual edition of scientific and professional papers in which teachers and students of the Faculty, as well as other scientists and experts, publish the results of their scientific research and professional work in the field of the Faculty's activities. It has been published since 1972, and since Book XI (2008) it has been regularly published in printed and electronic form and is available in open access on the Faculty website. Since Book XIX (2016), the Proceedings are also available on the portal of scientific journals of the Republic of Croatia Hrčak. **Engineering Review** is an international scientific journal indexed in the bibliographic database WoSCC, published by the Faculty of Engineering in Rijeka and the Faculty of Civil Engineering in Rijeka. It is primarily intended for the dissemination of papers in the fields of mechanical engineering, naval architecture, electrical engineering, computer science, basic technical sciences, interdisciplinary sciences and civil engineering. The review process includes at least two reviews of each article, both of which are non-institutional. The journal is co-financed by the Ministry of Science, Education and Youth of the Republic of Croatia, and the papers are published in the so-called diamond open access free of charge for authors and readers. Together with the entire archive of published works, it is available on the Hrčak portal.

Other editions of the Faculty are available on the Faculty's website. In the period from 2019 to 2023 the Faculty published 1 professional book, 1 textbook, 3 books of conference abstracts, 3 conference proceedings, 1 workshop proceedings, a monograph of the Faculty of Civil Engineering and 2 strategies. A complete historical overview of the Faculty's publications is given in the Monograph of the Faculty of Civil Engineering in Rijeka (pp. 175-186).

V.2 The higher education institution is distinguished by its professional achievements in all fields in which the professional study programme is delivered.

The quality of the published professional publications of higher education institution's teachers is at the highest level.

The Faculty achieves significant results in the field of professional work, and the quality of the published professional papers of the Faculty teachers is at the highest level and is confirmed by their applicability in engineering practice, publication in relevant professional journals and visibility in the professional community. The professional work of the Faculty in the period from 2019 to 2023 was developed in accordance with the key strategic documents of the Faculty and the University (Annex V.2.1.1, Annex V.2.1.2, Annex V.2.1.3). As a special strategic goal of the Faculty Development Strategy, the ***Increase in research activities in applied research***, related to professional cooperation with business partners from the economy and the local community, is emphasised.

In the mentioned period, the teachers of the Faculty published **35 professional papers in journals**, of which **33 papers were in open access**, including papers in the journal ***Građevinar*** (*The Civil Engineer*), the leading Croatian professional journal in civil engineering, which is indexed in the **WoSCC** and **Scopus** databases (Annex V.2.1.4). At the same time, 5 papers have resulted from collaboration with other institutions from the Republic of Croatia, and 2 papers have resulted from international collaboration. They also participated in **31 presentations at professional and professional-scientific conferences and symposiums** (Annex V.2.1.5), of which 13 professional papers were published in conference proceedings (Table 5.1). The published professional papers of the Faculty teachers reach a high level of quality and impact thanks to their clearly defined application, recognition within the profession and international relevance. In this way, the Faculty contributes to the development of the civil engineering profession and meets the highest standards of quality of professional work in higher education.

The results of teachers' professional research contribute significantly to the development of the profession.

Faculty teachers continuously conduct professional research that has direct application in engineering practice and significantly contributes to the development of the civil engineering profession, both at the national and international level. In the period from 2019 to 2023 the Faculty has been involved in **258 professional projects** for **163 different clients** (Annex V.2.2.1), which indicates a high level of trust and professional recognition. In the field of civil engineering, professional and scientific work are often **inseparable components of the engineering process** – professional challenges encourage scientific research, while scientific results are simultaneously transferred into concrete, applicable solutions. In accordance with this logic, the Faculty continuously nurtures an **integrated approach to the development of the profession**, where education, scientific excellence and professional practice support and complement each other.

Teachers' research includes projects, studies, revisions and laboratory tests, and the results are regularly published in professional journals, such as *Građevinar* (*The Civil Engineer*), *Hrvatske vode* (*Croatian Waters*) and *Proceedings of the Faculty of Civil Engineering in Rijeka*, and presented at national and international professional conferences, such as the *Day of the Croatian Chamber of Civil Engineers* and the *Assembly of Croatian Builders* (Annex V.2.2.2, Annex V.2.2.3). The **Kolos** Award of the Croatian Chamber of Civil Engineers for exceptional professional results (Award for 2021. - Grandić, Grošić, Award 2023 - Buljan, Awards for 2024 - Ribarić). The University Award for Knowledge Transfer "Support for the technical development of an innovative panel construction system of a building" in the category of Innovation Projects was awarded to a team of Faculty teachers in 2021. The contribution of Faculty teachers to the development of the profession is further confirmed by **editorial engagement** in relevant professional journals (Annex V.2.2.4). Some of the most important research that has contributed to the development of the profession

is available on the website of the Faculty laboratory, where a list of the most important professional references and projects is given for each laboratory, as well as a list of professional projects of the Faculty (Annex V.2.2.5). Teachers are also authors and reviewers of professional publications of the **Croatian Chamber of Civil Engineers**, which today serve as guidelines for design and preparation of studies and studies (Annex V.2.2.6, Annex V.2.2.7). The Faculty actively develops and implements **lifelong learning programmes**, such as the micro-credential *Applied mechanics in modern engineering practice*, within which the latest achievements and research results of the Faculty teachers in the field of technical mechanics are transferred to students.

The Faculty actively promotes the connection between science and practice as an organizer and partner of a number of events. Particularly noteworthy is the **innovation forum *Innovations in Civil Engineering – Strengthening Knowledge Transfer***, held as part of the international exhibition **ADRIATECH**, which connects industrial partners and the academic community (Annex V.2.2.8). Faculty teams regularly participate in innovation exhibitions such as ARCA (bronze medal in 2021 and silver and bronze medal in 2022), IKA (gold medal in 2023) and I3G (gold and bronze medal in 2024). Through the **Alumni community** and regular professional lectures, the transfer of knowledge and technology is further encouraged. Also, **the Science and Technology Park** STEP RI, in cooperation with the Enterprise Europe Network (EEN) and with the support of the Croatian Agency for SMEs, Innovation and Investments (HAMAG BICRO), enables **the commercialisation of research** and the strengthening of cooperation between the scientific community and the economy.

The higher education institution has a satisfactory number of professional publications in prestigious professional journals.

Although the number of scientific papers is significantly higher than the number of professional papers published in journals, the Faculty has a satisfactory number of professional papers published in prestigious professional journals. In the evaluation period from 2019 to 2023, the teachers of the Faculty published **a total of 35 professional papers in professional journals** (Table 5.1, Annex V.2.3.1). Of these, 3 papers were published in professional journals indexed in the **WoSCC** database, and 32 papers in other professional journals. It should be especially noted that out of 35 professional papers, **33 of them were published in open access**. In this period, the teachers of the Faculty published professional papers in the journals *Građevinar*, *Hrvatske vode*, *Put plus*, *m-Kvadrat*, *Libellarium*, *Subterranea Croatica*, *Electronic Proceedings of the Faculty of Civil Engineering in Osijek* and the *Proceedings of the Faculty of Civil Engineering in Rijeka*. It should be noted that *Građevinar* is the most popular professional journal in Croatia in the field of civil engineering, published by the Croatian Association of Civil Engineers, and is indexed in the Scopus and WoSCC databases (SJRs). The journal *Hrvatske vode* is the most important professional journal in the field of hydraulic engineering in Croatia, published by Hrvatske vode, and is also indexed in the Scopus and WosCC databases (SJR).

There is a satisfactory number of papers of the higher education institution presented at prestigious professional conferences and symposia.

Faculty teachers regularly present their work at prestigious professional conferences and gatherings. If only the category of professional papers published in conference proceedings is taken as authoritative, then in the evaluation period from 2019 to 2023, a total of 13 papers by Faculty teachers are recorded (Table 5.1, Annex V.2.4.1). However, if we take into account the abstracts and extended abstracts published at professional and professional-scientific conferences, then the **total number of papers presented at professional conferences in the evaluation period is 31** (Annex V.2.4.2). Among the most prestigious professional conferences where papers were presented are the *Days of the Croatian Chamber of Civil Engineering*, the *Assembly of Croatian Builders*, the *Croatian Water Conference*, the *Croatian Conference on Earthquake Engineering*, the *Conference of the Croatian Geotechnical Society*, the *Croatian Geological*

Congress, *Symposium of Chartered Geodetic Engineers* and the *International Conference on Industrial Heritage*, which are recognized in professional circles as **key places for the exchange of knowledge and practice between the academic community, the engineering profession and the economy**.

The higher education institution is involved in a satisfactory number of professional projects.

Over the years, the Faculty has built a recognizable position in the field of professional work, cooperation with the economy and knowledge transfer in practice. Through numerous projects and initiatives, the Faculty has proven a strong orientation towards the labour market, innovations in civil engineering and strengthening the connection between the academic and professional sectors. During the evaluation period, the Faculty participated in a total of **258 professional projects** with various partners – including economic entities, local and regional self-government, public institutions and research institutions. Professional services were provided to **163 different clients**, which confirms a wide range of expertise and the recognition of the Faculty as a reliable partner on the market. The list of professional projects in which Faculty teachers participate is given in Annex V.2.5.1. A total of **31 teachers were the leader of the professional project**, and almost all teachers were involved as associates on at least one project. It should be noted that **14 teachers of the Faculty have the status of certified civil engineers** and that during the evaluation period five teachers acquired the authorisation as a result of the policy of encouragement (granting paid leave) and co-financing of taking the professional exam (Annex V.2.5.2, Annex V.2.5.3). Also, the Faculty teacher has the licence issued by the Ministry of Culture to **perform tasks on the protection and preservation of cultural property** (Annex V.2.5.4). The Faculty maintains strong ties with the economy through **cooperation with numerous renowned companies**, including Geotech, GP Krk, Institut IGH, KFK, MareCon, RI ISA, Rijekaprojekt, Rimac, Sika Croatia, STRABAG and Studio ARS. The connection with companies is maintained and further strengthened through **the Committee for Cooperation with the Community and the Economy** (Annex V.2.5.5). Significant professional projects are registered in the official CroRIS database (Table 5.6).

The higher education institution organizes professional conferences that are recognized at the national and international level.

In the period from 2019 to 2023, the Faculty was the organizer and co-organizer of a number of professional and scientific-professional conferences at the national and international level. By organizing these events, the Faculty has built recognition as one of the centres for the exchange of knowledge, ideas and the latest achievements in technical sciences, not only in Croatia but also abroad. Among the most important professional events, the 9. International Conference on Industrial Heritage, held in 2023, which brought together experts dedicated to the research, conservation and conversion of industrial heritage, with a special focus on maritime and torpedo heritage (Annex V.2.6.1) stands out. This conference is of utmost importance because it further positions Rijeka as a relevant national and international centre of professional and scientific discussion on industrial heritage. The Faculty is also a co-organizer of the annual international conference Modern Structures of Metal and Wood, which brings together experts in civil engineering to exchange modern technical knowledge on the design, construction and exploitation of steel, wooden and plastic structures. The Faculty was a co-organizer of an interdisciplinary scientific and professional conference held in 2023 on the occasion of the 150th anniversary of the Pivka-Rijeka-Karlovac railway. The conference was held in partnership with the Faculty of Humanities and Social Sciences in Rijeka, the Centre for Industrial Heritage, the Institute of Historical and Social Sciences of the Croatian Academy of Sciences and Arts in Rijeka and the City of Rijeka, and brought together experts in the fields of history, language, economy and civil engineering.

In the field of support for young researchers, the Faculty regularly organizes conferences that enable students at the beginning of their scientific research careers to acquire new knowledge, network and present their own research results. In cooperation with the Association of Croatian Civil Engineering

Faculties, the Faculty organizes a scientific and professional conference Common Foundations, intended for graduate and postgraduate students in the field of civil engineering and related technical sciences. The conference is held every two years, the Faculty hosted it in 2019 (Annex V.2.6.2) and shall organize the conference in 2025.

The Faculty is also recognized as an organizer of events that promote innovation, technology development, and collaboration with industry. Particularly noteworthy are the international exhibition of innovations in civil engineering ADRIATECH and the innovation forum Innovations in Civil Engineering – Strengthening Knowledge Transfer, which brings together industrial partners and the academic community with the aim of exchanging knowledge and ideas. All professional and public events organized by the Faculty are regularly announced and documented through the official website, including invitations, abstracts and reports, which ensures the availability of information to the wider professional and academic community. In addition, the Alumni Community of the Faculty of Civil Engineering further contributes to connecting education and engineering practice through its annual meetings. Its activities are focused on strengthening ties with alumni, encouraging lifelong learning, exchanging experiences, mentoring and professional guidance of students.

The higher education institution teachers participate in editorial boards of professional and popular journals.

Faculty teachers actively participate in the work of editorial boards **of professional and popularisation journals**, thus contributing to the transfer of scientific knowledge into professional practice, but also to strengthening the visibility of the Faculty in the academic and engineering community. In the evaluation period (2019 – 2023), a total of **34 Faculty teachers** were involved in the work of the editorial boards of **six different journals** of this profile. A detailed list of journals in whose editorial boards Faculty teachers participate can be found in Table 5.8, and a list of participation in the editorial boards of professional and popularisation journals can be found in Annex V.2.7.1.

It should be noted that one teacher of the Faculty held the position **of deputy editor-in-chief of the journal** *Hrvatske vode* until 2019. It is the most important professional journal in Croatia in the field of hydraulic engineering. In addition, several teachers actively participate in the editorial board of the journal *Građevinar*, the most widely read professional journal in the field of civil engineering in Croatia, published by the Croatian Association of Civil Engineers. Both journals are indexed in **the Scopus** and **WoSCC** index databases, which further confirms their importance and international reach. During the observed period, three teachers were editors-in-chief of the *Proceedings of the Faculty of Civil Engineering in Rijeka*, a journal that publishes professional and scientific papers of teachers, students and external associates in the field of the Faculty's activities.

The higher education institution has an organised publishing activity and it is the publisher of professional publications relevant to the development of the profession.

The Faculty has an organized and branched publishing activity that significantly contributes to the development of the civil engineering profession, science and the spread of innovations in the field of technical sciences. Publishing is regulated by the Rules on Publishing Activities, which define the composition and work **of the Publishing Committee**, the conditions and procedures for publishing manuscripts, and the ways of ensuring the visibility and availability of all publications. Information about the editions is publicly available through the official website of the Faculty, including printed and electronic versions.

The Faculty is a co-publisher of the international peer-reviewed journal *Engineering Review*, which encourages the exchange of knowledge between the scientific community and the engineering profession, including civil engineering. The journal is indexed in **Scopus** and **WoSCC (ESCI),** which confirms its international visibility and scientific credibility. The central periodical publication of the Faculty is the

Proceedings of the Faculty of Civil Engineering in Rijeka, which is published once a year and includes professional and scientific papers by students, researchers and experts from the academic and economic community. The Faculty also publishes publications resulting from international and interdisciplinary conferences, as well as abstracts and proceedings of these events, which serve as relevant sources of contemporary professional and scientific knowledge. In the context of teaching support, the Faculty regularly publishes **teaching and didactic materials** (manuals, collection of exercises, exam notes) that cover basic and specialist areas of civil engineering and contribute to the harmonisation of theory and engineering practice and the education of future engineers. The Faculty is increasingly using **digital tools and platforms** for the distribution of its publications (electronic proceedings, journals and monographs), which ensures greater availability of scientific and professional content to the wider academic and professional community, in the country and abroad.

The higher education institution teachers participate in the work of committees and other bodies relevant to development of the profession.

Faculty teachers actively participate in the work of numerous committees, professional bodies and professional organisations that play a key role in the development of the civil engineering profession in Croatia and abroad. Their participation contributes to the formulation of standards, the development of technical regulations and professional guidelines, thus creating a strong link between science, industry and engineering practice. The list of participation of Faculty teachers in committees and other bodies important for the profession is given in Annex V.2.9.1.

The teachers of the Faculty are members **of the Croatian Chamber of Civil Engineers** (HKIG) and **the Croatian Association of Civil Engineers** (HSGI). They are active in the Assembly of the Croatian Chamber of Commerce, the Committee for Awards, the Committee for Foreign Professional Qualifications and the Committee for the Award of Scholarships, while one professor emeritus is a member of the Supervisory Board of the Croatian Chamber of Commerce. Within the Croatian Standards Institute, several teachers participate in technical subcommittees, including **Chair of Sub-Committee 8 on Eurocodes and Technical Regulations**. Faculty employees also contribute to the work of working groups for earthquake and landslide risk assessment and expert committees of the Ministry for the development of technical regulations (Annex V.2.9.2). Through membership in the Croatian Centre for Earthquake Engineering, the Faculty actively participates in the creation of national seismic risk reduction policies. Teachers are authors and reviewers of professional publications of the Croatian Chamber of Architects, which are used as official guidelines for the development of civil engineering projects (Annex V.2.9.3 and Annex V.2.9.4). In addition, teachers are members of numerous national professional associations, including the Croatian Hydrological Society, the Croatian Geotechnical Society and the Croatian Society for Mechanics, the Society of Civil Engineers Rijeka, the Croatian Centre for Earthquake Engineering, the Centre for Digital Construction and the Pro Torpedo Association. During the evaluation period, the teachers of the Faculty held leading positions: President of the Croatian Hydrological Society, President of the Croatian Geotechnical Society, Vice-President of the Society of Civil Engineers Rijeka, President and Secretary of the Rijeka Branch of the Croatian Society of Mechanics. At the international level, it should be noted that the Faculty had a vice-president of **the International Landslide Consortium for Europe** (ICL) in the evaluation period, and from 2024 its president.

External collaborators are recognized as experts in their fields, they have published adequate professional papers and have the appropriate work experience.

In the period from 2019 to 2023, a significant number of external associates were hired to participate in the implementation of various courses. The Faculty systematically develops cooperation with economic entities through the Alumni community and the established network of professional bases, which enables stable and long-term involvement of experts in teaching. This model of cooperation not only improves the quality of study programmes, but also creates a two-way transfer of knowledge between industry and

academia. In this way, the Faculty fulfils one of its fundamental tasks – sustainable and high-quality education of highly qualified experts ready to respond to challenges and contribute to the development of the economy.

External associates of the Faculty of Civil Engineering in Rijeka are recognized as recognized experts in their fields, with relevant professional papers and many years of experience in the civil engineering industry and/or the academic community, which is evident from the CVs of external associates. Their inclusion in the teaching process brings direct benefits to the quality of education, strengthens the connection of the Faculty with industry and ensures the harmonisation of teaching content with the current needs of the labour market. Associates participate in lectures, exercises and seminars, which enables students to acquire practical skills, better prepare for the labour market and understand industry trends, technological innovations and required competencies. Thanks to their professional experience, the associates also contribute to the integration of modern methods and technologies into teaching content, including digital tools, sustainable materials and new approaches to design. In addition to teaching engagement, external associates are also involved in joint professional and scientific projects, industry competitions and mentoring of final and graduate theses (for example, through the GraDiS project). Through such cooperation, opportunities for student practice, fieldwork and the involvement of students in specific projects are developed, which further develops their practical competencies.

V.3 A higher education institution influences the economy and society as a whole through the scientific and/or artistic work of its teachers.

The higher education institution has appropriate mechanisms in place to disseminate its activities to society.

The Faculty has established clear mechanisms for the dissemination of its activities to society. In 2021, the **Communication Plan** (Annex V.3.1.1) was formalized, which defined key activities and responsibilities related to regular public information through websites, social networks, media, the Proceedings, the Alumni community and the Promotion Working Group. The Faculty regularly informs the public about events (promotions, conferences, lectures, awards, doctorates, project activities). The list of disseminations in the newspaper Novi list is given in Annex V.3.1.2, and the cooperation with the media is particularly visible through **the monthly supplements VOX ACADEMIAE** and the **thematic edition Zajedno (Together)** in Novi list (Annex V.3.1.3, Annex V.3.1.4, Annex V.3.1.5, Annex V.3.1.6). The official website of the Faculty includes posts about innovations, projects, laboratory resources, public events and recognitions, and the content is further disseminated through social networks (Facebook, Instagram, Linkedin, Tiktok) – report for 2021/22 in Annex V.3.1.7. The Proceedings of the Faculty of Civil Engineering, in the part of the Faculty Yearbook, systematically presents activities such as awards, doctorates and graduates.

The Faculty is an active participant in national and international events of science popularisation, such as **the Science Festival, the River of Technology** and **the Researchers' Night**. As part of these events, lectures and workshops are organized, and news is published on **the Faculty's website**. For example, the **Open Days** of the Faculty of Civil Engineering are organized, whose programme is rich in workshops, lectures, exhibitions and activities in laboratories (Annex V.3.1.8). As part of the **River of Technology event, we hold lectures and workshops** (Annex V.3.1.9), and for several years we have been organizing **a Boost camp** to introduce interested high school students to civil engineering as a profession, in which our external partners, experts from practice, are mandatory participants (Annex V.3.1.10). For years, the Faculty has been participating with registered activities in the Horizon Europe MSCA project ***Reconnect science with the blue society*** (BLUE-CONNECT), within which the **Researchers' Night** is held (programmes in Annex V.3.1.11 and Annex V.3.1.12) and various workshops for elementary school students **have been organized at the Faculty** (examples in Annex V.3.1.13, Annex V.3.1.14 and Annex V.3.1.15). In addition, the Faculty regularly organizes public lectures called ***Scientific and Teaching Meetings on Fridays***, where activities are presented

to the employees of the Faculty, the University and the public (Annex V.3.1.16). In addition to the employees of the Faculty, guest scientists, representatives of university services for the support of scientific research and members of the Croatian Society of Mechanics give presentations at the meetings. Moreover, **the Faculty Promotion Group** has a key role in communication with primary and secondary schools and in the promotion of study programmes through fairs, visits, workshops and direct contacts with students (Annex V.3.1.17, Annex V.3.1.18).

The higher education institution develops cooperation with external stakeholders.

The Faculty has developed and functional cooperation with external stakeholders, including the economic sector, public institutions, state administration bodies, educational and scientific institutions, the media and alumni. Cooperation is based on contracts and agreements that provide the legal framework for the development of partnerships and joint activities.

Cooperation with educational and scientific institutions, including international partners, is coordinated by the Vice-Dean for Projects and Collaboration. The list of partner institutions is published on the Faculty website, and examples of contracts are given in Annex V.3.2.1, Annex V.3.2.2 and Annex V.3.2.3. International cooperation is developed through **the Mobility Office**, which includes the coordinators of the Erasmus+, CEEPUS and YUFE networks. Special mention should be made of the Faculty's involvement in **the YUFE network**, one of the most successful alliances of European universities.

Cooperation with the community and the economy is led by the Vice-Dean for Business Affairs in cooperation with **the Committee for Cooperation with the Community and the Economy**. The cooperation takes place on the basis **of the Rules on Cooperation with the Community and the Economy** and also includes **the Advisory Committee for Science**, in which representatives from practice participate (Annex V.3.2.4). A special mechanism for connecting with external stakeholders are **professional bases** that enable joint projects, professional development and mentoring, and linking theory and practice. Examples of cooperation agreements from the evaluation period are given in Annex V.3.2.5. The conditions for the assignment of the expert base are regulated by the Ordinance on the Databases of the University of Rijeka (Annex V.3.2.5) and the internal Procedure for the Assignment of the Expert Base at the Faculty (Annex V.3.2.6). Representatives of expert bases, committee members and external associates actively participate in the development of study programmes, the teaching process, the design of educational events and strategic planning (Annex V.3.2.7). The Faculty regularly involves external stakeholders in the organisation of activities such as festivals, open days, Boost camps, innovation forums and alumni meetings.

The Faculty further develops cooperation with external stakeholders through the **RIMAP (Regional Innovation Matchmaking Platform) online platform**, which connects the academic community and the economy in order to encourage innovation development. We also participate in the **Career Days job fair**, which is organized at the University with the aim of informing students about labour market trends and employment opportunities (Annex V.3.2.8). Through participation in international projects such as **Erasmus+ projects** Career Garden**,** XRGREEN and Open GLASSRoom, as well as the GraDiS project, the Faculty implements innovative models of education in cooperation with industry.

The higher education institution is involved in the formulation of public policies in the context of the scientific and/or artistic field and area in which it operates.

The Faculty actively participates in the formulation of public policies in the field of technical sciences, especially in the field of civil engineering and basic technical sciences. Through standardisation bodies, advisory boards, partnership councils, expert committees and projects with an impact on public policies, the Faculty contributes to the development of laws, regulations, strategies and planning documents at the national, regional and local levels.

At **the national level**, Faculty teachers participate in the work of the **National Council for Science, Higher Education and Technological Development** as members of the Scientific Field Committee for the fields of architecture and urban planning, geodesy and civil engineering, where they contribute to the development of national criteria for election to scientific and teaching titles. Also, several employees of the Faculty participate in the work of **the technical subcommittees of the Croatian Standards Institute**, especially in the development of Eurocodes and technical regulations, including the chairman of one of the subcommittees. Employees of the Faculty are members **of the working group for landslide risk assessment in the Republic of Croatia** and the **working group for earthquake risk assessment in the Republic of Croatia**, as well as members of the expert committee for the development **of draft technical regulations** (Annex V.3.3.1). Within **the Croatian Centre for Earthquake Engineering**, the Faculty participates in the formulation of public policies for earthquake risk reduction. Teachers are authors or reviewers **of professional publications of the Croatian Chamber of Civil Engineers** that are used as guidelines in engineering practice (Annex V.3.3.2 and Annex V.3.3.3). The Faculty has made significant contributions in the field **of climate change and water management**. It participated in the preparation of the bases for **the Climate Change Adaptation Strategy in the Republic of Croatia for the period until 2040 with a view to 2070** (Annex V.3.3.4) and in the preparation of expert bases for **the River Basin Management Plan** and **the Flood Risk Management Plan** (Annex V.3.3.5).

At **the regional and local level**, Faculty teachers are members **of the Partnership Council of PGC** and **the Rijeka Urban Agglomeration**, where they participate in the development of strategies and proposing strategic projects (Annex V.3.3.6, Annex V.3.3.7). For the needs **of the Institute for Physical Planning of PGC**, the Faculty has prepared **an Analysis of the vulnerability of the coast of PGC to sea level rise**, crucial for future spatial plans (Annex V.3.3.8, Annex V.3.3.9, Annex V.3.3.10). Through the **PRI-MJER project**, the Faculty has developed **risk and susceptibility maps to landslides**, as well as **guidelines for their application in spatial planning, risk and water management** (Annex V.3.3.11). Similarly, through the international **project STREAM**, it participated in the development **of flood risk management plans** for six Croatian cities (Annex V.3.3.12). These activities show that the Faculty not only contributes to the scientific foundations of public policies, but also actively participates in their practical implementation. This confirms its strategic role in society and its responsible participation in designing a safe, sustainable and resilient space.

Higher education institution teachers are involved in different scientific or management bodies, both national and international.

Faculty teachers are actively involved in the work of various scientific and management bodies at the national and international level. During the evaluation period (2019-2023), a total of **32 teachers participated in the work of 60 scientific or managing bodies**. A list of the involvement of Faculty teachers in national and international scientific or management bodies is given in Annex V.3.4.1.

At the national level, several teachers of the Faculty participate in the work of the National Council for Science, Higher Education and Technological Development, specifically as members of the Scientific Field Committee for the fields of architecture and urbanism, geodesy and civil engineering (Annex V.3.4.2). Faculty teachers are also represented in the Croatian Academy of Engineering (Department of Civil Engineering and Geodesy, Committee for Cooperation with the Economy and Regional Cooperation), and one teacher is the secretary of the Academy of Architectural Arts and Sciences (AAUZ) and a member of the Scientific Council for Architecture, Urban Planning and Spatial Planning of the Croatian Academy of Sciences and Arts (HAZU). The Faculty has members of the Sectoral Council VIII Civil Engineering and Geodesy at the Ministry of Science and Education (Annex V.3.4.3). In addition, many teachers are active in the governing bodies of national professional associations such as the Croatian Hydrological Society, the Croatian Geotechnical Society, the Croatian Society for Mechanics, and some of them are members of the Assembly of the Croatian Hydrological Society and various bodies of the Croatian Hydrological Society (e.g. The

Committee for Awards, the Committee for Foreign Professional Qualifications and the Committee for the Implementation of the Public Tender for the Award of Scholarships of the Croatian Chamber of Civil Engineers). One professor emeritus is a member of the Supervisory Board of the Croatian Standards Institute. Within the Croatian Standards Institute, a large number of teachers of the Faculty are involved in technical subcommittees dealing with the development and harmonisation of standards, especially Eurocodes.

At the international level, the Faculty is leading an extremely important initiative of global scientific networking – one teacher is the president of the International Consortium on Landslides. Faculty teachers are members of international associations such as UNISCAPE, EUA Thematic Peer Group and DYMAT.

Higher education institution teachers participate in national and international reviews of projects, programmes and scientific papers.

Faculty teachers actively participate in national and international reviews of scientific projects, programmes and papers, thus contributing to the development of science and the recognition of the Faculty in the academic community. The list of review activities is provided in Annex V.3.5.1, and evidence is also attached (Annex V.3.5.2). **At the international level**, several teachers participated as reviewers of projects within **the Horizon Europe programme (MSCA),** COST actions, **YUFE PostDOC programme**, as well as national scientific agencies and foundations such as **ARIS (Slovenia)** and **GACR (Czech Republic).** Also, the teachers reviewed scientific reports for **the European Commission** (Annex V.3.5.3). **At the national level**, participation includes reviews of projects and programmes of the Croatian Science Foundation, the Ministry of Science and Science and the Central Finance and Contracting Agency for EU Projects (CFCA). In addition, Faculty teachers regularly review scientific papers in international journals. Annex V.3.5.4 provides an overview of the 10 teachers with the highest number of recorded reviews in the Web of Science (WoS) database, although the actual number of reviews is often significantly higher due to the limitations of records in this database.

V.4 Doctoral studies of the higher education institutions are aligned with the higher education institution's strategic programme, state-of-the-art scientific/artistic achievements, or professional standards and internationally accepted standards of high-quality doctoral education, where applicable.

Planning and proposing doctoral study programmes is in line with the mission and strategic goals of the higher education institution.

The process of designing and proposing new study programmes is carried out in accordance with the CCA NN 151/22, Quality Standards and University Regulations (Annex V.4.1.1 and Annex V.4.1.2). Each planning and proposal starts from the strategic goals proposed by the management, and is then discussed at thematic sessions of the Faculty Council and elaborated within the appointed working groups, and finally adopted them at the institutional level. The initial accreditation of the doctoral study of Civil Engineering was carried out in 2006 and was then a strategically important step in strengthening today's teaching staff, while today it represents an important contribution to the education of new doctors of science in the field of civil engineering and basic technical sciences in the Republic of Croatia. **The mission of the Faculty of Civil Engineering in Rijeka** is the education and training of academic staff in the field of civil engineering and related technical and natural science disciplines on the basis of the indivisibility of scientific work and higher education, which includes doctoral studies. The Faculty bases its mission on ZVOZD NN 119/2022, the Statute of the University of Rijeka and the Strategy of the University of Rijeka 2021 - 2025, whereby one of the 5 main strategic goals for the key area of Research is **to strengthen doctoral education** by increasing the number of defended doctorates at the University in the period from 2021 to 2025 by 58%. At the level of the Faculty of Civil Engineering in Rijeka, this target value is 100%. In the **Faculty Development Strategy**

2018 – 2022 (Annex V.4.1.1) doctoral studies and support for the development of researchers are listed as a specific goal, for which 4 tasks are listed that aim to maintain the level of four defended doctorates at the Faculty, encourage multidisciplinarity, increase the number of students studying full-time and increase the number of teachers involved in mentoring doctoral students (the achieved results are given in the Report according to the Strategy). In the **Faculty Development Strategy 2024 – 2028.** (Annex V.4.1.2) defines the institutional goal of recruiting new doctoral students.

In the observed five-year period from 2019 to 2023, the **Ordinance on the Doctoral Study of Civil Engineering** was amended on two occasions, namely in 2021 (Annex V.4.1.3) and 2023 (Annex V.4.1.4). Key changes were related to the regulation of the duration and activities during the mandatory study stay at another institution, as well as the introduction of the obligation to submit the doctoral dissertation defence proposal by the halfway point of the study (within 3 years of enrolment in the program). The Ordinance on Doctoral Studies was also amended in 2018 after the re-accreditation procedure was carried out, and the key changes were the reduction of the number of compulsory courses, the introduction of courses that significantly include active research work in the laboratory, enabling part-time enrolment in the study, the procedure for withdrawing from the study and surveying during the printout, and more frequent reporting to mentors on the progress of doctoral students. In accordance with the accreditation recommendation of ASHE (Annex V.4.1.5) and the opinion of the Committee for Follow-up in Re-accreditation Procedures (Annex V.4.1.6), an Action Plan for improving the quality of the Doctoral Study of Civil Engineering **was developed and accepted**. The action plan is aimed at strengthening teaching, mentoring and research capacities and infrastructure, improving the internal system of quality assurance and support for doctoral students, as well as the programmes and outcomes of doctoral studies. Once a year, the Faculty submitted a report on the implementation of the action plan to ASHE, through which the improvement of the quality of studies in the past period is visible (Annex V.4.1.7). The final report was adopted in 2025 (Annex V.4.1.8).

Planning and proposing doctoral study programmes contributes to the national development of higher education and science.

The national development of higher education and science is defined by the **Strategy for Education, Science and Technology,** which is in line with the previously mentioned goals and activities. First of all, the doctoral study strengthens **internationalisation and encourages international cooperation**, given that doctoral students in the doctoral study of Civil Engineering have the obligation to study at another institution (supported by the Croatian Science Foundation - example) and the opportunity to participate in international exchange programmes through CEEPUS and Erasmus programmes. Through cooperation with leading experts at foreign institutions, global expertise and knowledge are brought to the national level, and cooperation encourages scientific productivity through joint publications and project applications. In the doctoral study, the enrolment of scientists from abroad is enabled and encouraged through the publication of enrolment notices on relevant EU portals (example of publication), and classes and exams are held in English, if necessary. Doctoral studies are also a platform for **strengthening cooperation with the economy and the community and the development of new technologies**, which can contribute to the technological and economic development of the country (an example of a successful technology transfer involving doctoral students and an example of a defended doctoral thesis in cooperation with Hilti). Such activities also contribute to the achievement of the goals of the Smart Specialisation Strategy of Croatia. Doctoral studies are of great national importance because many PhDs, whether pursuing their careers in academia or industry, use their expertise to help formulate policies that promote national development in various sectors.

Doctoral studies and doctoral theses reflect the scientific and/or artistic research and achievements of the higher education institution.

Scientists in the scientific-teaching position of assistant professor and above who meet the minimum criteria for mentorship in the doctoral study are included in the doctoral study through programme changes that are implemented at least every other year. Given that the offered courses are closely related to the field of expertise of scientifically active teachers, the doctoral study reflects the highest knowledge and achievements of the higher education institution. Doctoral teachers are continuously improving, expanding cooperation with other institutions and applying for competitive competitions for financing their research, which indirectly contributes to the quality of studies. Doctoral research is aligned with the University's research goals and priorities, ensuring relevance and contribution to the institution's strategic research directions. PhD students often participate in research projects funded from national and international sources (for example, PhD students employed on HRZZ projects and Horizon MSCA projects), which makes a strong contribution to the research work and achievements of the Faculty. The condition for the defence of the doctoral thesis is that the student, as the first author, has published or accepted for publication an original scientific paper in a foreign scientific journal cited in the WoSCC database, which by itself stands for a contribution to the strategic goals of the Faculty. Top scientific achievements of doctoral students are encouraged at the Faculty level by the Award for Scientific Excellence for Young Scientist (Annex V.4.3.1) and at the University level by the Rector's Award for Excellence for PhD students and the University of Rijeka Foundation Award for Young Scientist. Scientific papers published in journals indexed in WoSCC that fall into the Q1 and Excellence categories are especially evaluated. From 2019 to date, out of a total of 9 qualifying theses related to defended doctorates, 3 have been published in Q1 journals, and 5 in Q2 according to the JCR classification. As a rule, doctorates generate additional high-quality papers whose share in the total scientific production of the Faculty is not negligible.

The higher education institution's doctoral studies follow the latest scientific and/or artistic knowledge and skills.

The doctoral study programme is regularly revised to include the latest scientific knowledge and technological achievements. Relevant changes to the study programme were made in 2020 and 2023. New elective courses based on the skills of new PhDs who have been employed as an assistant professor have been introduced, the literature has been modernized and ECTS credits have been harmonized with the teaching workload of students. Meetings with doctoral students are regularly held to discuss openly possible changes and ways to improve their studies. The proposals of doctoral students are included in the study report and their implementation is considered at the level of administration and implemented through the decisions of the Faculty Council. The Doctoral Study Board takes care of ensuring and improving the quality of doctoral studies, paying particular attention to the quality of doctoral research and regular four-month monitoring of the progress of all doctoral students based on the report of the mentor. Through the **Science Advisory Board**, cooperation with industry partners is encouraged with the aim of improving the doctoral curriculum.

PhD students at the Faculty participate in research projects that are financed from national and international funds, which means that they are engaged in research on current problems that have been selected by reputable experts in strong (often international) competition. Applications for projects with the possibility of employing researchers are encouraged, and in the case of positively evaluated competitive projects that have not received funding, the University provides incentive support. Teachers from foreign institutions are involved in teaching at the doctoral study , which encourages internationalisation and monitoring of global research trends and standards. In 2020, the Doctoral Study of Civil Engineering submitted an application to the Joint Research Centre call for the *Collaborative Doctoral Partnership* programme and was included in the list of candidates for a possible future engagement (contribution), which confirms its quality in a competitive EU context.

Round tables are organized to encourage dialogue between the institution and the industry regarding the necessary competencies in the labour market and interest in employing PhDs outside the academy. PhD students have the opportunity to participate in international exchanges through CEEPUS and Erasmus programmes, which allows them to work at reputable foreign institutions, cooperate with leading experts in their fields and use state-of-the-art research equipment (link to the list of institutions with which the Faculty has established cooperation). The publication of papers in foreign scientific journals is also proof that doctoral research at the Faculty follows current trends, and the conferences in which doctoral students participate are ideal places for the dissemination of scientific knowledge, the creation and exchange of research ideas, and the establishment of new international contacts. In this context, the My First Conference should be highlighted as a conference organized by the Faculty in order to provide its doctoral students with their first experiences in the dissemination of research results. The Faculty encourages interdisciplinary research projects, enabling a broader and innovative approach to problem solving (example Interreg projects). Active cooperation between different Departments and Chairs within the Faculty enables the integration of different approaches and different knowledge. The Faculty provides access to recent scientific bibliographic sources, either independently or within the framework of national or initiatives of the University of Rijeka.

Doctoral study programmes of the higher education institutions are aligned with professional standards and recent achievements in the respective field.

Doctoral studies at the Faculty are aligned with the standards of the profession and modern achievements in such a way that they are accredited by the competent authorities, meeting national and international quality standards. Study programmes are also aligned with the principles of the Bologna Process, which ensures compatibility with European higher education and facilitates student mobility. Through teaching at the doctoral study, cooperation with prominent experts from other (often foreign) institutions is achieved. For the purposes of research, the employees of the Faculty have at their disposal modern laboratory equipment and the support of trained laboratory technicians. Experimental research is crucial not only for the verification of theoretical and numerical models, but also for the development of innovative solutions in civil engineering, which makes the Faculty a relevant partner in solving specific problems of the industry (example of testing for Tehnoplast profili d.o.o., Palijan d.o.o. and Hilti in 2022 - Annex V.4.1.7) and society. The Faculty provides its teachers and associates with access to modern computer tools (software and hardware) that are necessary for the efficient implementation of quality research. In addition, in cooperation with the Library, access to a larger number of scientific databases, e-books and other digital resources that are essential for keeping up with modern achievements has been provided. The Faculty of Science and Physics regularly holds scientific and teaching meetings on Fridays, which are also attended by foreign lecturers, and guest lectures by internationally recognized scientists and experts are often organized (example).

Through its representatives, the Faculty is involved in the work of the **Doctoral School of the University of Rijeka**, whose goal is to improve the quality of doctoral studies, encourage interdisciplinarity, internationalisation and cooperation with the economy, and provide support to doctoral students and mentors through various activities and projects (example). The Doctoral School opens up opportunities for doctoral students of the Faculty to modernize programmes, mentorship and exchange of knowledge with other components of the University and institutions abroad. In the period 2019 – 2024, the Faculty Vice-Dean for Science currently holds the position of Deputy Head of the Doctoral School, which confirms the Faculty's commitment to improving doctoral education (Annex V.4.1.8). The University of Rijeka financially stimulates the employment of new doctoral students, and through the **YUFE network**, the University participates in the DIOSI project (*Developing and Implementing hands-on training on Open Science and Open Innovation for Early Career Researchers*), which is aimed at developing and implementing doctoral education in the field of open science and innovation, with a special emphasis on the entrepreneurial and

research skills of young people and the acquisition of knowledge and competences necessary for employment and career within and outside the academic community.

The higher education institution encourages creativity in the design of doctoral study programmes.

When creating and revising doctoral studies, current international trends in doctoral education are followed, which is further facilitated by the integration of the University of Rijeka into the **YUFE network**. Continuous exchange of ideas between constituents through the **Doctoral School of the University of Rijeka** helps to adopt good practices at the local level, while through workshops and trainings with international participation a new and broader perspective of the complexity and challenge of doctoral education is obtained. In this way, the doctoral study of the Faculty of Civil Engineering in Rijeka is continuously improved by setting new (higher) quality standards. Through its **Alumni community** and the **Science Advisory Board**, the Faculty actively promotes cooperation with the economy and the exchange of knowledge and ideas, which can generate creative research topics and solutions to complex engineering problems (an example of a review from the economy). Innovative teaching and learning methods are included in the teaching itself through the integration of digital tools and online platforms, which enables more flexible and personalized approaches to learning and research. In most courses in the doctoral study, students themselves propose a topic of the seminar paper that is close to the topic of the doctoral thesis, so in cooperation with the course holder, original findings and solutions are often reached, and sometimes this results in joint publications (example) and/or active involvement of the course holder in the doctoral research (in the role of co-mentor). PhD students participate in raising the quality of studies by expressing their comments and opinions at meetings with the head of the study, institutional and university satisfaction surveys (appendix). The Faculty also encourages collaboration between the different constituents of the University, enabling doctoral students and their mentors to explore interdisciplinary problems.

V.5 The higher education institution applies the principles of open science in its activities, processes and acts.

The higher education institution adopted an open science policy encouraging the application of principles of open science at an institutional level and ensuring open access to student theses (bachelor and master theses and doctoral dissertations), scientific and professional publications, educational resources and research data from its staff and students.

In 2021, the Faculty adopted its own **Open Access Policy** (Faculty Council Decision - Annex V.5.1.1), which defines open access policies in relation to the Faculty's institutional repository, as well as faculty periodicals (Table 5.3). The Faculty encourages employees and students to publish their papers in gold and green open access and store them in the institutional repository and other content created in their scientific, professional and teaching work, such as teaching materials, book chapters and data sets. The Open Science Policy of the Faculty was adopted before the University Open Science Policy and before the ZVOZD defined open science as the foundation of scientific activity in 2022. In the Faculty Development Strategy 2024 – 2028. The Faculty is committed to implementing measures and introducing tools to encourage open science policy.

In 2005 the Faculty has adopted the **Open Science Policy of the University of Rijeka** (Annex V.5.1.1), which follows from the Declaration of the University of Rijeka – European Open Science from 2019 and which is aligned with **the Croatian Open Access Declaration** (Annex V.5.1.2), numerous international documents and initiatives, as well as the principles of open science promoted by the European Commission. The University encourages researchers to timely deposit papers and research data in **institutional repositories** for public availability through green, gold, or diamond open access. It is recommended to use an open license (CC BY) wherever possible. For closed access publications, at least the open availability of metadata is expected. The development of **a Data Management Plan** (PUP), linking data to publications and storing them in accordance

with the FAIR principles (*Findable, Accessible, Interoperable, Reusable*) and the principle of maximum openness are also encouraged. According to the Decision on Stating Affiliation to the University of Rijeka from 2018, all employees and associates are obliged to clearly state their institutional affiliation in scientific and professional papers, as well as in public appearances and communication, using the official name of the University and its constituents. Published papers should have a permanent identifier of the author ORCID associated with the University of Rijeka. Scholars should also have a publicly available Google Scholar profile and link it to their CroRIS profile and UNIRI Portfolio. University instructions for the implementation of the Open Science Policy are published on the faculty's website.

The higher education institution has its own institutional repository allowing its staff and students to store their graded theses, scientific and professional publications, educational content and research data, and it ensures open access to them.

The Faculty has implemented its own institutional repository that gathers, permanently stores and provides free access to scientific research, intellectual and creative production created by the work of the institution, i.e. its employees and students in digital form (Table 5.5). The repository can store students' final and graduate theses, doctoral theses, pre-print papers, scientific and professional papers, research data, books, teaching materials, images, video and audio recordings, presentations and digitized materials. The repository was created in 2015 as part of the Dabar system of Digital Academic Archives and Repositories, which enables institutions from the science and higher education system to gather their works in digital form in one place, preserve them in the long term and use them in accordance with international standards, OpenAIRE compatibility and FAIR principles. It is also possible to store raw *data* if required by the publishing policy of the journal in which the related scientific paper is published.

The Faculty Library maintains the repository and provides support in the use, storage and permanent preservation of the results of teaching, scientific research and professional work and other scientific achievements of the institution's employees and students in digital form. Since its implementation in 2015, all final, graduate and doctoral theses defended at the Faculty have been stored in the repository. This fulfilled the obligation prescribed by the ZVOZD for higher education institutions. **All doctoral theses, as well as all final and graduate theses defended since 2019, are in open access.** The repository enables employees to self-archive their own scientific and professional papers, including published articles, manuscripts and other research results, in accordance with the principles of open science and the requirements of the funders. Papers stored in the repository can be published in open access with the associated Creative Commons (CC) license, with limited access only to employees and students of the home institution, users from the science and education system of the Republic of Croatia, or with an embargo that postpones public access for a certain period of time.

From 2019 to 2023, a total of 953 items were stored in the institutional repository, of which 99.58% are available in open access. The largest bio-items are evaluation papers (all in open access), of which 372 are final theses, 344 graduate theses (including specialist professional papers) and 7 doctoral theses (Table 5.5). There are also 141 scientific and professional papers, all in open access (100%), 52 papers from conference proceedings (92.31% in open access), 8 author's and editorial books (100% open access) and 6 book chapters, also 100% in open access. In addition, 4 datasets and 1 research data management plan are stored, all available in open access. From 2024 to date, 7 educational contents in open access have also been published.

The higher education institution encourages and evaluates the application of open science principles through different in-house and/or institution validation processes.

With its policy, the Faculty encourages employees to publish their papers in the golden type of open access (providing financial support through co-financing the costs of publishing scientific papers in open access),

and the green type of open access (providing technical and professional support in archiving versions of papers in the repository). Through institutional (UNIRI) projects, scientists from the University of Rijeka are enabled to finance the publication of project results in open access, and the project application must contain the PUP. Given that almost all scientists at the Faculty are members of research groups on UNIRI projects, the implementation of open science is widely applied at the Faculty. The Faculty directly encourages the application of open science through the financing of institutional scientific projects ZIP (Annex V.5.3.1) and through the co-financing of the costs of scientific research and teaching training of employees in the amount of EUR 530 per year, with the possibility of accumulating funds for the last, current and next year. By encouraging applications for competitive scientific research projects with the obligation to publish the results of research in open access and the development of PUPs (such as HRZZ research projects or Horizon Europe and MSCA projects), the Faculty further stimulates the implementation of open science and fundraising. The Faculty provides education, training and raising awareness of open science among its scientists (examples of calls - Annex V.5.3.2). The Library organizes educational workshops for scientists with the aim of promoting the benefits of open science (example of the call Annex V.5.3.3), and publishes manuals and instructions on its website that facilitate the application of the principles of open science in practice. The Faculty regularly informs its employees (example of the call Annex V.5.3.4) about the activities of the Open Science Centre operating within the University Library, especially about the regular gathering on the topic of open science - Open Science Café. The Faculty encourages its employees to publish scientific and professional papers in self-published publications (Proceedings and Engineering review) that publish papers in open access (*diamond open access*). The Faculty is very active in the segment of science popularisation, as another aspect of open science in the form of open scientific communication.

If the higher education institution has an organised publishing activity, the publications (books, journals and other types) are available in open access.

The Faculty has organized publishing activities which are carried out by the Commission for Publishing Activities. The publishing activity of the Faculty, the composition and work of the Committee for Publishing Activities of the Faculty, the conditions and procedures for publishing manuscripts of employees and/or external associates of the Faculty, scheduled for publication as publications of the University of Rijeka and/or the Faculty, the procedure for publishing the Proceedings of the Faculty of Civil Engineering in Rijeka, and the availability and visibility of the Faculty's publications are defined by the Ordinance on Publishing Activities of the Faculty of Civil Engineering in Rijeka. The Ordinance also regulates copyright issues, the review procedure, the technical preparation of the edition, and the distribution and promotion of publications.

The Faculty is the publisher of the journal Zbornik radova (*Proceedings*), which publishes all papers in accordance with the CC BY-NC-ND license. All articles are deposited in HRČAK and the Croatian Web Archive, and there is no article processing fee. In cooperation with the Faculty of Engineering in Rijeka, the Faculty also publishes the journal Engineering review, which also publishes all papers in open access under the CC BY-NC-ND license. The journal is internationally peer-reviewed and indexed in the databases WoS, ESCI, SCOPUS, SCImago, CrossRef, Google Scholar and Cambridge Scientific Abstract. The publication of papers is free of charge, and all articles are deposited in HRČAK and the Croatian Web Archive.

Information on all other publications published or co-published by the Faculty can be found on the website of the Faculty's publishing activities. For open access publications, a link to the full text is provided. From 2019 to 2023, the Faculty published one author's book in open access (Introduction to Work and Programming on the HP Prime Calculator, 2021), and the Monograph of the Faculty of Civil Engineering in Rijeka was published in 2024. Other open access publications published by the Faculty are the proceedings of the International Conference on Highly Flexible Slender Structures (2023), the 5th Regional Symposium on Landslides in Adriatic-Balkan Region (2022), the accompanying book of abstracts and workshops, the VIII

International Conference on Industrial Heritage (2021), the 7th Gathering of Young Researchers in the Field of Civil Engineering and Related Technical Sciences (2019) and My First Conference (2019).