I. Reason and purpose

The Educational Institute Biosciences is responsible for the Bachelor's programme in Biology, the Master's programme in Biology and the Master's programme in Medical Biology. The institute is responsible for the coordination, quality and coherence of these educational programmes. The quality of our programmes is excellent, as evidenced by the National Student Survey, the Higher Education Guide and the most recent educational review (2021).

We continuously evaluate and improve our educational programmes. Over the past 5 to 10 years, for example, the Bachelor's curriculum has been radically revised, English has been introduced as the language of instruction, Team-Based Learning has been introduced as a form of education, and a course has been set up in which Bachelor's students are coached in their personal and professional development. The programmes are constantly evolving, driven by social, scientific and didactic developments.

A clear frame of reference is needed to ensure the coherence of the programmes offered. By developing an educational vision together with lecturers, students, and support staff, we provide a clear and transparent framework for shaping our education. This vision not only improves internal communication, but also plays a crucial role in our external relations and in the recruitment of new students.

When drawing up an educational vision, it is not only about the end product (the frame of reference), but also about the process. By engaging in a dialogue with each other about what we consider important, we not only create clarity for each other and the outside world, but we also increase the involvement of students, teachers and support staff. This dialogue is important to keep each other focused and engaged. The end product of this process, the educational vision, should therefore not be seen as a static product, but as a living document that prompts us to continually ask each other critical questions, engage in discussions and adjust the educational vision.

The present document describes the educational vision of the Educational Institute Biosciences. The vision was developed in the period 2024-2025 and aims to provide a frame of reference for the next 4-5 years. The vision is in line with Radboud University's current educational vision, which focuses on the pillars of academic, personal and sustainable development, as well as the current draft educational vision of the Faculty of Science, in which these pillars have been elaborated for the faculty. The present educational vision of the Educational Institute Biosciences was adopted on 6 October 2025 and will, in principle, be updated every four years.

II. Mission

In Nijmegen, we study the broad spectrum of the biosciences, from medical to 'green' and from molecules to ecosystems. Our mission as the Educational Institute Biosciences is to educate students to become critical and problem-solving scientists with a solid foundation in biology. We focus on active learning and offer students the opportunity to develop their unique qualities and interests to the fullest. We prepare them to conduct scientific research and tackle societal challenges, both independently and in teams. We achieve this by bringing together students and lecturers from diverse backgrounds to work together in an open, safe and stimulating educational environment.

III. Core values

Amazement & motivation

Everything starts with amazement and motivation. Teachers share their enthusiasm for biology (i.e. their fascination with life, and their ambition to understand and protect it) with students, motivating them to explore their own biological interests. We expect students to have a curious, inquisitive and self-reflective attitude, which helps students to actively and deliberately shape their own educational careers.

A broad and up-to-date basis in biology

We offer students a broad and up-to-date basis in biology, ranging from molecules to ecosystems and from human biology to landscape ecology. This basis serves as a frame of reference for their further personal development and specialisation later in the programme. At the same time, it provides students with a common frame of reference for future collaboration and for the integration of new knowledge and insights.

Critical & safe

Critical thinking is essential. Our students and staff do not take things for granted, but ask each other critical questions. The curriculum uses teaching methods that encourage students to actively and critically reflect on the subject matter and the associated skills. To this end, we offer a safe learning environment in which students and staff show understanding for each other's mistakes and the associated individual learning process.

Skilled

The educational programme trains students to become skilled researchers and problem solvers. This means that the curriculum is not only focused on the transfer of knowledge and insights, but also includes components aimed at applying and expanding these, such as lab practicals, research skills, education in specific methods and techniques, computer assignments, group work and internships.

Collaboration & independence

A Nijmegen biologist can study and conduct research independently, and also knows when it is time to ask for help. Being independent does not mean that you are on your own. Interaction between students and between students and lecturers is a fundamental part of our educational programme. We train our students to be aware that collaboration is essential for studying and solving complex biological issues, and we support them in learning to collaborate, for example by encouraging them to reflect on their own role(s) within a diverse team.

Individual development

The educational programmes we offer are stimulating and enable students to develop individually. This involves developing knowledge and skills within a personal profile that students explicitly reflect on. We give students the tools they need to continue developing in a direction that suits them after their studies.

Social context & ethical awareness

Our students understand the role that biology plays in society. They are aware of the ethical aspects of biological research. They can place their own research in a societal context and use their biological knowledge and skills to contribute to the analysis and resolution of current societal challenges.

IV. Principles for the organisation of education

The educational institute

The Educational Institute Biosciences comprises the students, lecturers and support staff of the programmes that fall under the institute. The institute has a board consisting of the institute director, the programme directors, the education coordinators, two students (one from general biology and one from medical biology) and a representative of the EduTeam. Because the educational institute does not have its own recognisable physical location (e.g. in the form of its own department or office), a sense of connection and identification with the institute is not self-evident, especially for lecturers who are often based in research departments. Creating a sense of community is therefore a point of attention for the educational institute.

Roles and responsibilities

Board

The board is responsible for the design and implementation of the educational programmes. The board primarily has a facilitating role: it creates the conditions within which students can study as effectively as possible and lecturers can teach as effectively as possible. The institute director has final responsibility for institute matters and issues that transcend individual programmes; the programme directors have responsibility for the individual programmes. These tasks and responsibilities are specified in more detail in the faculty regulations and the internal regulations of the educational institute.

Students

We expect students to be available for their studies for an average of 40 hours per week and to take responsibility for their own learning process. If they need help, they can - within reasonable limits - call on the support of study advisers, lecturers and other relevant parties. Students respect the lecturer as subject matter expert and as the person responsible for the organisation of education.

Teachers and supervisors

We expect lecturers and supervisors to devote themselves fully (within the available teaching time) to developing and delivering high-quality education and to take responsibility for the quality of this education. Lecturers structure their teaching in such a way that attention is not only paid to the transfer of subject-specific knowledge, insights and skills, but also to encouraging students to reflect critically on these. If they need help with this, they can - within reasonable limits - request assistance of education support services (e.g. the EduTeam). Teachers and supervisors respect students as learning individuals who do their best to master the subject matter as well as possible. Teachers are expected to show commitment not only to the courses they develop and teach themselves, but also to the full breadth of the educational programmes in the Biosciences. At the start of each course or internship, the lecturer/supervisor will point the student(s) to the importance of a safe learning environment and the associated rules of conduct. During the course or internship, the lecturer/supervisor will monitor compliance with these rules.

Support staff

We expect support staff to make every effort within the time available to facilitate the design and implementation of education in the Biosciences as effectively as possible. This may involve supporting students and lecturers in lab practicals and seminars, but also providing certain non-subject-specific programme components such as the PPD courses in the Bachelor's and Master's programmes. The education coordinator and the EduTeam are expected to maintain an overview of the curricula and monitor the coherence of non-subject-specific learning trajectories.

Learning environment

The learning environment consists of hardware (buildings, learning materials, laboratory and computer facilities) and software (teachers, support staff). We strive to use these resources in such a way that they optimally support the student's learning process. The basic principle is that students study the material independently and that support is provided where necessary. This may involve, for example, learning objectives that are unachievable without support, such as learning to work together or practical skills, but also resolving bottlenecks in the learning process. This means that the primary role of the teacher is to motivate students and support their learning process. The direct transfer of knowledge and insight becomes an important task for the teacher when independent study of the subject matter turns out infeasible or does not appear to be working well.

The learning environment also encompasses the way in which we interact with each other as students, teachers and support staff. We do this with respect for each other as human beings, including everyone's social/cultural background, and for everyone's specific role within the learning process. Interactions between students, teachers and support staff take place on the basis of equality. We give each other positive feedback, for example by complimenting someone when they do something well. We discuss mistakes or shortcomings, preferably by not formulating or addressing these as personal criticism, but as points for learning or improvement.

Educational quality and quality assurance

The educational institute strives to provide the highest possible quality of education with the resources at its disposal. In doing so, the educational institute recognises that quality is a subjective concept that can be perceived differently based on varying perspectives. Quality is more than the result of a student survey at the end of a course. It also includes the opinions of lecturers, the receiving field, education experts and alumni, both in the short and long term, and not only at course level, but also at programme level. Important elements of educational quality are relevance, topicality, level, engagement, knowledge transfer and study programme feasibility. In this sense, good education can be defined as education that is relevant to the student's future field of work (as a researcher or academic professional), that reflects the current state of the biological sciences, that effectively and efficiently transfers the associated knowledge, insights and skills to students, and that is inspiring and doable for students.

To monitor the quality of education, the educational institute uses regular tools such as course evaluations by students and lecturers, the national student survey, the national alumni survey and exit surveys of recent graduates. The programme committee plays an important role in evaluating and reporting on the quality of education. The board of the educational institution discusses the results of such educational evaluations, formulates action points if there is reason to do so, and includes these in the dynamic action points overview (DAPO).

One specific aspect of quality assurance focuses on assessment. The institute board is responsible for the assessment policy and draws up an assessment plan for this purpose. The assessment committee (part of the examination board) is responsible for quality control of the assessment. To this end, it periodically evaluates the quality of examinations and the assessment of graduation projects, and reports on this annually to the institute director. The board of the educational institute discusses the results of the periodic assessment checks, formulates action points if necessary, and includes these in the dynamic action point overview (DAPO).

Personal development

We consider supporting the personal development of students to be a core task of our educational programmes. In concrete terms, this means that the curriculum explicitly reserves space for reflection on one's own learning process, such as during the coaching programme of the Bachelor's programme and the master's portfolio. In addition, the Bachelor's and Master's programmes offer scope for compiling a study profile based on personal preferences. For example, during the Bachelor's programme, students can choose from a wide range of specialisation courses and tailor their choice of internship topics to their personal preferences. Lecturers are encouraged to pay attention to internship opportunities and career prospects in the relevant field during their courses. Internship supervisors are encouraged to regularly exchange ideas with students about their intended future and to advise them (without obligation).

Language

We consider a good and active command of the English language to be essential for scientists and academic professionals working in the field of biology. We encourage this by offering the Bachelor's programme in Biology and the Master's programmes in Biology and Medical Biology in English. This enables our graduates to quickly integrate into the international scientific community and (international) business world, where English is generally, and increasingly, used as the main language of communication. An additional advantage is that the educational programmes can be opened up to international students. This creates an international classroom and exposes students to a diversity of cultural perspectives and backgrounds, which further contributes to their successful integration into the international scientific community and (international) business world. The international influx is also interesting for the institute from a macroeconomic perspective. In addition to a good and active command of the English language, we believe it is important for Dutch-speaking students to have a good command of the Dutch language, especially if they aspire a job in the national labour market. Dutch-speaking students are therefore encouraged to take electives to further develop their Dutch language skills, and students who are pursuing a specific career within the Dutch professional field (e.g. as a policy officer) are given the opportunity to conduct their graduation research in Dutch.

The Bachelor's curriculum

- The Bachelor's curriculum consists of a general/compulsory part (102 EC), a differentiation phase (66 EC) and a graduation phase (12 EC).
- The general phase is the same for all students and comprises 102 EC. During this general phase, a broad and up-to-date basis in biology is offered, ranging from molecules to ecosystems and from human biology to landscape ecology. This basis provides students with an orientation in biology and serves as a frame of reference for later development/specialisation. During the general phase, the emphasis is on the transfer of subject-specific knowledge and insights, with the course material being presented in an inspiring and stimulating manner. In addition, the general phase focuses on teaching general research skills such as laboratory techniques, data analysis, reporting, presenting and collaborating. There is a diversity of working methods, including those that encourage students to critically reflect on the subject matter and their own development process. During each quarter, there is at least one course that uses team-based learning. The general phase includes at least 3 EC of philosophical education, 3 EC of writing skills and 3 EC of reflection.
- Education in the differentiation phase is organised into domains. Each domain contains at least 12EC of compulsory courses that are related to each other in terms of content. The organisation of courses into domains serves as an aid for students in putting together a coherent study programme and is not mandatory. The subjects in the differentiation phase are coordinated by the course coordinators in consultation with the domain coordinator in terms of content, skills and teaching methods, as well as in relation to the general phase and (if applicable) the subsequent Master's specialisation. Attention is also paid to student motivation, encouraging critical reflection on the subject matter, and the ethical aspects of the field.
- The graduation phase consists of the Bachelor thesis (internship; 12 EC). During the internship, each student goes through the various phases of the research cycle, from the research question to the final report. The internship can be carried out in teams or individually, but the final product is always individual and is also assessed individually.

The Master's curricula

- The Master's programme consists of compulsory courses, one or more internships and free space. In addition, there may be compulsory elective space. The scope of the various programme components may vary, with the proviso that the compulsory courses must comprise at least 15 EC, the free space 6 EC and the graduation research projects at least 60 EC.
- The programme includes at least one component that focuses on orientation in the field of study and the professional field, in which students reflect on these fields based on their personal background and interests.
- During a Master's thesis, each student goes through the various phases of the research cycle, from the research question to the final report. In principle, the research is carried out individually, unless the Examination Board grants an exemption. The final product of a thesis is always individual and is also assessed individually.

V. Targets for intake, efficiency and composition of the student population

Bachelor Biology

Number of first-year students

- We aim for 180 first-year students in 2030.
  - With this number, small-scale education remains feasible which is necessary to achieve the core values of Skilled and Collaboration & Independence.
  - In addition, the institute and the faculty consider this number to be optimal from a macroeconomic perspective, given the current infrastructure and teaching capacity.
- We aim for a ratio between the green biology and medical biology tracks that ranges between 35%-65% and 65%-35%.
  - We believe it is important that there is interaction between the different disciplines, so that students are exposed to different perspectives.
  - This ratio reflects the contributions of disciplines within our research institutes.
  - We believe it is important for students to feel at home. This ratio provides sufficient critical mass for both groups to achieve this.
- Ideally, the proportion of international students should be between 25 and 40%. This allows us to benefit from the international classroom while remaining an important player in the national market.
  - We believe it is important for our students to be exposed to different perspectives and cultures.
  - We believe it is important that students feel at home. This ratio provides sufficient critical mass for both groups to achieve this.

Dropout

We keep dropout rates as low as possible, in any case below the RU standard of 18%.

Study success

We aim for a bachelor's degree success rate of 40% after 3 years and 65% after 4 years. The Bachelor's programme is designed in such a way that all students who enter with the right prior knowledge, skills and study attitude, who devote 40 hours per study week to the programme and who do not have to deal with special personal circumstances, should be able to complete the bachelor's programme within three years. We also communicate this in our information materials. There must also be room for extra-curricular broadening or deepening (e.g. in the form of a board year). For these students, the IOBW has set a target of completing their BSc within four years.

Progression into the Master's programme

Our goal is that at least 70% of students who complete the Bachelor's programme in Biology in Nijmegen will progress to the Master's programmes in Biology or Medical Biology.

Master Biology

Number of first-year students

- We aim for 75 students in 2030.
    - From a macroeconomic perspective, this offers sufficient opportunities to offer multiple specialisations that reflect the field of Biology as studied within our research institutes.
- The proportion of international students varies between 25 and 40%.
- Ideally, the distribution of the total number of students across the specialisations should be equal, with a minimum inflow of 15 students per specialisation.

Dropout
The aim is to keep the dropout rate below 10%.

Success rate
We aim for a Master's success rate of 40% after 2 years and 70% after 3 years. The Master's programme is designed in such a way that all students who enter with the appropriate prior knowledge and skills, who devote 40 hours per study week to the programme and who do not have to deal with special personal circumstances should be able to complete the Master's programme within two years. We also communicate this in our information materials. However, there must also be room for extra-curricular broadening or deepening (e.g. in the form of a board year). For these students, the IOBW has set a target of completing their MSc within three years.

Master Medical Biology

Number of first-year students

- We aim for 100 students in 2030.
    - From a macroeconomic perspective, this offers sufficient opportunities to offer multiple specialisations that reflect the field of Biology as studied within our research institutes.
- The proportion of international students varies between 25 and 40%.
- Ideally, the distribution of the total number of students across the specialisations should be equal, with a minimum inflow of 15 students per specialisation.

Dropout
The aim is to keep the dropout rate below 10%.

Success rate
We aim for a Master's success rate of 40% after 2 years and 70% after 3 years. The Master's programme is designed in such a way that all students who enter with the appropriate prior knowledge and skills, who devote 40 hours per study week to the programme and who do not have to deal with special personal circumstances should be able to complete the Master's programme within two years. We also communicate this in our information materials. However, there must also be room for extra-curricular broadening or deepening (e.g. in the form of a board year). For these students, the IOBW has set a target of completing their MSc within three years.