

Assessment plan for the curriculum of the Master's degree programme in Biomedical Sciences, 2024-2025

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1. Vision on assessment

1. Assessment guides and evaluates student learning towards knowledge and understanding of knowledge in the field of biomedical sciences, as well as translational potential of such knowledge.
2. Assessment stimulates the integration of knowledge and skills in a research-based educational context, including the development of (academic) communication skills, collaboration in projects, creative and analytical thinking, and the acquisition of methodological expertise relevant for research in the field of biomedical sciences.
3. Assessment stimulates the student's ability to perform scientific research by designing experiments and executing data collection and by critically placing results in the appropriate context of the field, and effectively communicating the conclusions to an interdisciplinary and/or clinical audience.

2. Assessment guidelines

Please explain the general assessment procedures that are used in the programmes. For example, 4-eyes principle in test design, standardised grading forms, rubrics.

3. Assessment strategies incorporate a mix of formative and summative assessment activities.
4. Course units that use multiple summative tests, use different methods of summative evaluation to determine partial grades. Course units in the same academic period coordinate their method of summative assessment to realize a sufficiently diversified mix of assessment activities.
5. Formative assessment can be organized online and onsite, written exams are organized on site, whereas other summative assessments can be organized online and onsite.
6. Resits follow the original assessment strategy, unless this is not feasible. In any event, the result of a resit must be a valid and reliable assessment of the student's mastery of the learning outcomes. Except in case of force majeure, the use of a different assessment method in a resit must be specified in the course unit description on Ocasys.
7. Individual grades from group assignments are determined using peer assessment methods or by inclusion of the assessment of practical work.
8. Unless explicitly prohibited in the description of the relevant course unit on Ocasys, students may use AI tools in assignments in which they have to create written products. The design of the writing assignment and its assessment help to ensure that the student's creative input is complemented rather than substituted by the use of AI tools. In addition, students must define how they have used AI tools at all stages of the writing process and include explanations of their usage within the assignment.
9. In a MSc research project, colloquium, or other learning activity where a student is supervised individually, a typical learner can be expected to deliver a final product of sufficient quality after two rounds of feedback (one in an early stage, focusing on design and global structure, the other with detailed comments when a first complete draft is available). If a third round of feedback is

- needed to achieve a product of sufficient quality, supervisors will take this into account in the determination of the final grade, along with other relevant information: if no mitigating circumstances apply, the grade awarded for the final product is restricted to be ≤ 7 .
10. Reports of research projects or internships should include a section describing the author's contribution to the work that is presented in the report.

11. Learning outcomes of the degree programme

Learning outcomes for the degree programme, further specified learning outcomes (where relevant) and/or specified for tracks within the degree programme. Please add extra rows if necessary.

	Learning Outcome <i>At the end of the programme, the graduate ...</i>
1	Explain in detail the major underlying principles of biomedical sciences (knowledge).
2	Manage and interpret (big) data and demonstrate proficiency in computing technology for biomedical sciences (application).
3	Formulate solutions to biomedical issues both theoretical, technical and in a practical laboratory setting (knowledge and application).
4	Critically evaluate scientific biomedical data and offer sound arguments to justify a position (judgement and communication).
5	Effectively communicate scientific concepts to specialists as well as to a lay audience through oral and written presentations (communication).
6	Critically appraise the role of 'biomedical sciences' and/or in the dedicated specialisms 'Biology of Ageing' or 'Biology of Cancer and Immune System', 'Biology of Food and Nutrition' and 'Neuroscience' research aiming on supporting healthy ageing (knowledge and judgement).
7	Work independently as well as in a team to solve scientific and societal challenges related to biomedical sciences (communication and application).
8	Independently draw conclusions on ethical issues in biomedicine and apply this to scientific or public discussions about the impact of such science on society (judgement).
9	Evaluate and reflect on personal capabilities and motivation for a (international) scientific, policy or business career (lifelong learning skills).
10	Develop an international perspective on on-going scientific advances and translational perspectives of biomedical research (knowledge and lifelong learning skills)

12. Overview of assessment methods, test moments for course units, and examiners

This table shows all the course units for each year of the programme and assessment methods. Please add extra rows if necessary.

Year	Period	Course	EC	Assessment methods	Does (part of the) assessment have a formative function?	Test moment(s)* (e.g. mid-term, continuous assessment, exam week, etc)	First examiner	Second examiner
1	1A1	Biomedical Sciences: Professional Perspectives	5		Yes ▾		Dr. J.C. Graver	Dr. S. Grooters
1	1A2	Data Science in Biomedicine	5		Yes ▾		Dr. J. Broos	Dr. Victor Guryev
-	1A3	Editing, regulating and targeting genomes with CRISPR-Cas9	5		Yes ▾		Dr. Kai Yu Ma	Dr. A.J.A van de Sluis
-	1A3	Microbiome, Diet, Health and Disease	5		Yes ▾		Dr. ir. J.J.M. Harmsen	Dr. G. van Dijk
-	1A3	Translational Research in Respiratory Disease	5		Yes ▾		Dr. J. K. Burgess	Dr. M. de Vries
-	1A3	Research Proposal Cancer Research	5		Yes ▾		Prof. Dr. F.A.E. Kruyt	Prof. Dr. S. de Jong
-	1A3	Nutrition Research in Health and Disease	5		Yes ▾		Dr. E. Corpeleijn	Prof. Dr. G.J. Navis
-	1B1	Molecular Biology of Ageing and Age-related Diseases	5		Yes ▾		Dr. L.M. Veenhoff	Dr. Michael Chang
-	1B1	Immunology from Bedside to Bench and back	5		Yes ▾		Dr. M.C Nawijn	Prof. Dr. P. Heeringa
-	1B1	Neurobiology of Psychiatric Disorders	5		Yes ▾		Prof. Dr. M.J.H. Kas	tbd
-	1B1	Neurobiology of Nutrition	5		Yes ▾		Prof. Dr. G. van Dijk	Prof. Dr. A.J.W. Scheurink
-	1B1	Applied statistics and Machine Learning	5		Yes ▾		Prof. Dr. G Lunter	Dr. Ir. P. van Ooijen
-	1B1	Advanced Research Skills in BMS	5		Yes ▾		Dr. Kai Yu Ma	Dr. H. Westers
-	1B2	Nutrition, Brain Development and Cognition	5		Yes ▾		Dr. R. Havekes	Dr. J.D.A. Olivier

Year	Period	Course	EC	Assessment methods	Does (part of the) assessment have a formative function?	Test moment(s)* (e.g. mid-term, continuous assessment, exam week, etc)	First examiner	Second examiner
-	1B2	Stem Cells & Regenerative Medicine	5		Yes ▾		Dr. J. K. Burgess	tbd
-	1b3	Big Data & Applications in biomedicine	5		Yes ▾		Dr. Ir. P. van Ooijen	Prof. Dr. G Lunter
2	1A1	Advanced Metabolism & Nutrition	5		Yes ▾		Dr. J.K. Kruit	Dr. ir. M.H. Oosterveer
2	1A1	Neurodegenerative disease	5		Yes ▾		Prof. Dr. U.L.M. Eise	Prof. Dr. W. Baron
2	1A2	From Big Data to Personalised Medicine	5		Yes ▾		Dr. I.H. Jonkers	Dr. S. Withoff
2	1A2	Scientific Writing	5		Yes ▾		Dr. G. Krenning	Prof. Dr. M.C. Harmsen
2	1A2	Current Themes in Oncology	5		Yes ▾		Prof. Dr. J.J.Schuringa	Prof. Dr. F.A.E. Kruyt
1	-	Research Project 1	30-50		Yes ▾		Appointed examiner	Appointed examiner
2	-	Research Project 2	30-50		Yes ▾		Appointed examiner	Appointed examiner
1/2	-	Essay	5		Yes ▾		Appointed examiner	Appointed examiner
1/2	-	Colloquium	5		Yes ▾		Appointed examiner	Appointed examiner

The abbreviations for the relevant teaching methods are explained in the legend of the table.

Examples of assessment methods include:

- *Written Exam (WE)*
- *Multiple Choice (MC)*
- *Oral Exam (OR)*
- *Report (R)*
- *Presentation (P)*
- *Practical Work (PR)*
- *Assignment (AST)*

* With block courses there is no overlap in test moments, as only one course runs at a time and therefore there is no coordination within the programme as to who will take the exam and when.

13. Relationship between course units and details of the learning outcomes

Please note in the table below the course units per block in the programme. Indicate which learning outcomes are assessed in which courses by adding an X in the relevant cell. Please add extra rows if necessary.

An X means that the learning outcome is explicitly assessed (not merely addressed) in the course.

		Learning outcomes of the degree programme									
		1	2	3	4	5	6	7	8	9	10
Period	Course	Year 1 –compulsory courses									
1A1	Biomedical Sciences: Professional Perspectives	x			x		x		x	x	x
1A2	Data Science in Biomedicine*	x					x				
Period	Course	Year 1 & 2 Electives									
1A3	Editing, regulating and targeting genomes with CRISPR-Cas9		x					x	x		x
1A3	Microbiome, Diet, Health and Disease		x	x		x	x	x		x	x
1A3	Translational Research in Respiratory Disease		x		x	x		x			x
1A3	Research Proposal Cancer Research	x		x	x	x		x			x
1A3	Nutrition Research in Health and Disease	x			x	x	x				
1B1	Molecular Biology of Ageing and Age-related Diseases	x				x					x
1B1	Immunology from Bedside to Bench and back	x			x	x			x	x	x
1B1	Neurobiology of Psychiatric Disorders	x		x	x			x			x
1B1	Neurobiology of Nutrition			x	x	x					
1B1	Applied statistics and Machine Learning		x		x						

		Learning outcomes of the degree programme									
		1	2	3	4	5	6	7	8	9	10
1B1	Advanced Research Skills in BMS			x				x			
1B2	Nutrition, Brain Development and Cognition					x	x				
1B2	Stem Cells & Regenerative Medicine				x	x	x	x			
1b3	Big Data & Applications in biomedicine		x		x						
1A1	Advanced Metabolism & Nutrition	x		x		x	x	x			
1A1	Neurodegenerative disease	x			x	x	x				
1A2	From Big Data to Personalised Medicine		x				x				
1A2	Scientific Writing					x				x	x
1A2	Current Themes in Oncology				x		x				
Period	Course	Year 1 & 2 compulsory units									
-	Research Project 1			x	x	x	x	x		x	x
-	Research Project 2**			x	x	x	x	x		x	x
-	Essay*	x			x	x	x	x			
-	Colloquium	x			x	x	x				

* Not mandatory for SBP students

** SBP students do a work placement instead of a research project