

Assessment plan for the curriculum of the Bachelor's degree programme in Artificial Intelligence, 2026-2027

Programme director: Prof. Dr. J.P. Borst

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1. Vision on assessment

1. to provide students with a broad perspective on the field of AI, assessment includes items that require transfer of student knowledge and understanding to all specializations within the field of AI as specified in the learning outcomes
2. to provide students with implementation skills in addition to theoretical knowledge, assessment includes practical assignments on all specializations in the field of AI
3. to ensure students master all relevant skills for a course unit, grades are not dominated by one specific mode of assessment
4. to stimulate students' ability for critical reflection, assessment will include components for self and peer evaluation
5. to stimulate students to work in culturally diverse groups, assessment of group assignments will include collaboration criteria
6. to design teaching and assessment according to a learning pathway, course coordinators will jointly implement assessment strategies for subsequent courses within a learning pathway

2. Assessment guidelines

1. all courses need a minimum of two assessment activities
2. final tests or other summative assessments that contribute substantially to the final grade are reviewed by a second examiner
3. formative assessments are activities for which students receive feedback and which they can use to reflect on how they are performing. Formative assessment may contribute in a limited way to the final grade of a course, with a maximum of 20%.
4. how students can use supporting materials and supporting (AI) tools is explicitly stated for all graded assignments
5. courses that have graded elements that are affected by the use of Generative AI models should incorporate the adoption of these models in the design of these elements
6. in all courses where the use of supporting materials or supporting tools is prohibited, a supervised assessment item is included
7. for group work, part of the grade can be dedicated to criteria related to collaboration and organization within groups
8. for all self and peer assessment a valid grading rubric needs to be provided to students

3. Learning outcomes of the degree programme

Learning Outcome	
<i>At the end of the programme, the graduate demonstrates knowledge, understanding, and the ability to evaluate, analyse and interpret relevant data in the field of...</i>	
1	the symbolic approach to Artificial Intelligence, and has the ability to apply this.
2	the numerical, non-symbolic approach to Artificial Intelligence, and has the ability to apply this.
3	computational models of cognitive processes and has expertise in constructing and applying this.
4	autonomous systems and robotics and has the ability to apply this.
5	linguistics and language technology and has the ability to apply this.
6	knowledge and agent systems and has expertise in designing, implementing and applying these.
<i>At the end of the programme, the graduate has knowledge and understanding of...</i>	
7	the most important philosophical theories developed in the areas of artificial intelligence and cognition.
8	relevant theories developed in the area of empirical sciences, psychology, biology and physics and has experience applying and analysing results thereof.
<i>At the end of the programme, the graduate has relevant knowledge and ability...</i>	
9	to apply methods and techniques from mathematics and logic used in Artificial Intelligence.
10	to use algorithms, data structures and important programming languages used in Artificial Intelligence.
<i>At the end of the programme, the graduate has the ability...</i>	
11	on an academic level, to analyse problems, critically review scientific results and communicate about this both individually as well as in a group, both oral and in written form, also in a broader societal context.
12	to critically reflect on one's own working method and to recognize the need for continued learning on a high degree of autonomy, also in the context of a master or a specialist profession.

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

The abbreviations for the relevant assessment methods used in below table are the following:

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

Year	Period	Course	Course code	EC	Assessment method(s)	Does (part of the) assessment have a formative function?	Test moment(s) (e.g. start (ST), mid-term (MT), end-term (ET), continuous assessment (CA), etc)	First examiner	Second examiner
Mandatory Course Units									
1	1a	Introduction to Artificial Intelligence	WBAIo04-05	5	AST	Yes	CA, ET	N.A. Taatgen	L. Vortmann
1	1a	Introduction to Neuroscience	WBAIo74-05	5	WE, AST	No	CA, ET	L. Vortmann	M.K. van Vugt
1	1a-1b	Imperative Programming (for AI)	WBAIo03-05	5	WE, AST	Yes	CA, MT, ET	H.A. de Weerd	M.M. Cook
1	1a-1b	Calculus for Artificial Intelligence	WBAIo48-05	5	WE	No	ST, MT, ET	R. Luppens	A.E. Sterk
1	1b	Autonomous Systems	WBAIo02-05	5	WE, AST	Yes	CA, ET	P.A. Vogt	R. Carloni
1	1b	Introduction to Logic	WBAIo12-05	5	WE, AST	Yes	CA, ET	D. Grossi	L.C. Verbrugge
1	2a	Algorithms and Data Structures	WBAIo18-05	5	WE, AST	Yes	CA, ET	M.M. Cook	H.A. de Weerd
1	2a	Cognitive Psychology	WBAIo21-05	5	WE, P, AST	No	CA, ET	F. Cnossen	N.A. Taatgen
1	2a	General Linguistics	WBAIo22-05	5	WE, AST	Yes	CA, ET	S.M. Jones	J.C. van Rij – Tange
1	2b	Fundamental Artificial Intelligence	WBAIo63-05	5	WE, AST	Yes	CA, EW	J.D. Dibangoye	M. Sabatelli
1	2b	Linear Algebra and Multivariable Calculus	WBAIo50-05	5	WE, AST, IT	Yes	CA, MT, ET	G.M. van de Ven	Q. Li
1	2b	Statistics	WBAIo49-05	5	WE, AST	Yes	CA, ET	W.P. Krijnen	H.A. de Weerd
2	1a	Introduction to Machine Learning	WBAIo56-05	5	WE/MC, AST	No	CA, ET	A.I. Sburlea	M. Dhali
2	1a	Knowledge and Agent Systems	WBAIo57-05	5	WE, PR	No	CA, ET	H.B. Verheij	L.C. Verbrugge

Year	Period	Course	Course code	EC	Assessment method(s)	Does (part of the) assessment have a formative function?	Test moment(s) (e.g. start (ST), mid-term (MT), end-term (ET), continuous assessment (CA), etc)	First examiner	Second examiner
2	1a	Scientific Skills	WBAIo76-05	5	AST, R, P, PR, PE	Yes	CA, ET	L. Vortmann	M.K. van Vugt
2	1b	Architectures of Intelligence	WBAIo09-05	5	WE, AST	Yes	CA, ET	J.P. Borst	N.A. Taatgen
2	1b	Object-Oriented Programming (for AI)	WBAIo45-05	5	WE, PR, AST	Yes	CA, ET	H.A. de Weerd	M.M. Cook
2	1b	Signals and Systems (for AI)	WBAIo16-05	5	WE, AST	Yes	CA, ET	Q. Li	H.A. de Weerd
2	2a	Advanced Logic	WBAIo17-05	5	WE, AST	Yes	CA, ET	L.C. Verbrugge	J.D. Top
2	2a	Natural Language Processing	WBAIo59-05	5	WE, R, PR, AST	No	CA, ET	T.M. Tashu	Y. Ziser
2	2a	Philosophy of AI and Cognition *	FI203AI	5	*	*	*	*	*
2	2b	Applied Machine Learning	WBAIo65-05	5	AST, PR, R	Yes	CA, ET	I.P. de Jong	M. Valdenegro-Toro
2	2b	Data Analytics and Communication	WBAIo11-05	5	WE, AST, PR	Yes	CA, ET	M.K. van Vugt	H.A. de Weerd
2	2b	Ethics in Artificial Intelligence	WBAIo40-05	5	WE, P	Yes	CA, ET	Z.L. Christoff	L.C. Verbrugge
3	2a-2b (1a-1b)	Bachelor's Project	WBAIo901-15	15	R, P	Yes	ET	Project Supervisors **	
Course Units in Specialisation(s) and Electives									
3	1a	Agent Technology Practical	WBAIo46-05	5	OR, R, AST, PE	Yes	CA, ET	J.D. Top	H.A. de Weerd
3	1a-1b	AI Engineering Practical	WBAIo80-10	10	R, P	Yes	CA, ET	M.B. Schippers	Y. Ziser
3	1a	Cognitive Modelling Practical	WBAIo20-05	5	R, P, AST	Yes	CA, ET	J.P. Borst	S.M. Jones
3	1a	Computational Modelling of the Brain	WBAIo79-05	5	WE, AST	Yes	CA, ET	C.L. Sibert	J.P. Borst
3	1a	Introduction to Robotics	WBAIo67-05	5	AST, WE	Yes	CA, ET	R. Carloni	S.H. Mohades Kasaei
3	1a	Large Language Models	WBAIo68-05	5	R, P, PR, AST	No	CA, ET	T.M. Tashu	Y. Ziser
3	1a	Legal Aspects of AI	WBAIo84-05	5	AST	No	CA, ET	I. Varosanec	J. Milaj-Weishaar
3	1a	Neural Networks	WBAIo28-05	5	WE, AST	Yes	CA, ET	G.M. van de Ven	M. Sabatelli
3	1a	Reinforcement Learning	WBAIo61-05	5	WE, P	Yes	CA, ET	M. Sabatelli	J.S. Dibangoye
3	1b	Knowledge Technology practical	WBAIo14-05	5	R, P, PR	No	CA, ET	H.B. Verheij	L.C. Verbrugge
3	1b	Language Technology Practical	WBAIo27-05	5	R, PR, AST, P	No	CA, ET	T.M. Tashu	Y. Ziser
3	1b	Neural Computation	WBAIo78-05	5	WE/MC, AST	Yes	CA, ET	M.M. Cook	J.P. Borst
3	1b	Reinforcement Learning Practical	WBAIo15-05	5	R, P	No	ET	M. Sabatelli	J.D. Dibangoye

Year	Period	Course	Course code	EC	Assessment method(s)	Does (part of the) assessment have a formative function?	Test moment(s) (e.g. start (ST), mid-term (MT), end-term (ET), continuous assessment (CA), etc)	First examiner	Second examiner
3	1b	Social Robotics	WBAIo71-05	5	AST, R, P	Yes	CA, ET	P.A. Vogt	S.H. Mohades Kasaei
3	2a	Computational Methods in Neuroscience Practical	WBAIo77-05	5	AST, P, R, PE	No	CA, ET	L. Vortmann	C.L. Sibert
3	2a	Human Language Learning	WBAIo72-05	5	WE, AST	Yes	CA, ET	J.C. van Rij-Tange	S.M. Jones
3	2a	Hybrid Intelligence	WBAIo69-05	5	R, AST, WE	Yes	CA, ET	H.A. de Weerd	J.J. Schoeffer
3	2a	Social Robotics Practical	WBAIo62-05	5	AST, R, P	Yes	CA, ET	P.A. de Vogt	S.H. Mohades Kasaei
3	2b	Human Factors	WBAIo55-05	5	R, PR, P	Yes	CA, ET	C.L. Sibert	M.B. Schippers
3	2b	Robotics Practical	WBAIo66-05	5	AST, PR	Yes	CA, ET	R. Carloni	P.A. Vogt
3	2b	Structural Analysis of Language for Cognitive Modelling	WBAIo52-05	5	AST	Yes	CA	S.M. Jones	J.C. van Rij-Tange
3	2b	Uncertainty in Machine Learning	WBAIo54-05	5	WE, AST	No	CA, ET	M.A. Valdenegro Toro	I.P. de Jong
University Minor Artificial Intelligence									
3	1a	AI and Law	RGMS70005	5	*	*	*	*	*
3	1a	Machine Learning	LIXo40B05	5	*	*	*	*	*
3	1a	Overview of AI	WBAIo81-05	5	WE	Yes	ET	N.A. Taatgen	L. Vortmann
3	1b	Final Project Minor AI	WBAIo83-05	5	AST, R, P	Yes	CA, ET	M.K. van Vugt	P.P.M. Bakker
3	1b	Foundation Models	LIXo52B05	5	*	*	*	*	*
3	1b	Humans and AI	WBAIo82-05	5	WE	No	ET	J.J. Schoeffer	N.A. Taatgen

* Mandatory Course Unit or Course Unit organized by other Degree Programme. For more information see the Assessment Plan of the Degree Programme organizing the course unit.

** The following examiners are allowed to supervise Bachelor's projects in the Artificial Intelligence Bachelor's Programme:

- prof. dr. J.P. Borst
- prof. dr. R. Carloni
- dr. Z.L. Christoff
- dr. F. Cnossen
- prof. dr. M.M. Cook
- dr. M.A. Dhali
- prof. dr. J. Dibangoye
- prof. dr. D. Grossi
- prof. dr. H. Jaeger
- dr. S.M. Jones
- I.P. de Jong, MSc
- dr. Q. Li
- dr. S.H. Mohades Kasaei

- dr. J.C. van Rij – Tange
- dr. M. Sabatelli
- dr. A.I. Sburlea
- dr. M.B. Schippers
- dr. J.J. Schoeffe
- dr. C.L. Sibert
- prof. dr. N.A. Taatgen
- dr. T.M. Tashu
- J.D. Top, MSc.
- dr. M.A. Valdenegro Toro
- dr. G.M. van de Ven
- prof. dr. L.C. Verbrugge
- prof. dr. H.B. Verheij
- dr. P.A. Vogt
- dr. L.M. Vortmann
- dr. M.K. van Vugt
- dr. H.A. de Weerd
- dr. Y. Ziser

5. 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. **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	11	12
Period	Course	Course code	Year 1 – compulsory courses											
1a	Introduction to Artificial Intelligence	WBAIo04-05	X	X			X		X	X	X		X	X
1a	Introduction to Neuroscience	WBAIo74-05			X				X	X				X
1a-1b	Calculus for Artificial Intelligence	WBAIo48-05									X			
1a-1b	Imperative Programming (for AI)	WBAIo03-05										X		
1b	Autonomous Systems	WBAIo02-05				X							X	
1b	Introduction to Logic	WBAIo12-05	X					X			X			
2a	Algorithms and Data Structures	WBAIo18-05										X		
2a	Cognitive Psychology	WBAIo21-05								X			X	
2a	General Linguistics	WBAIo22-05	X				X							
2b	Fundamental Artificial Intelligence	WBAIo63-05	X											
2b	Linear Algebra and Multivariable Calculus	WBAIo50-05									X			
2b	Statistics	WBAIo49-05									X		X	
Period	Course	Course code	Year 2 compulsory courses											
1a	Introduction to Machine Learning	WBAIo56-05		X							X	X		
1a	Knowledge and Agent Systems	WBAIo57-05	X					X				X		
1a	Scientific Skills	WBAIo76-05			X					X		X	X	X
1b	Architectures of Intelligence	WBAIo09-05	X		X					X			X	
1b	Object-Oriented Programming (for AI)	WBAIo45-05										X		
1b	Signals and Systems	WBAIo16-05				X					X	X	X	X
2a	Advanced Logic	WBAIo17-05	X								X			
2a	Natural Language Processing	WBAIo59-05					X				X		X	
2a	Philosophy of AI and Cognition	FI203AI							X					
2b	Applied Machine Learning	WBAIo65-05		X								X	X	X
2b	Data Analytics and Communication	WBAIo11-05		X						X			X	
2b	Ethics in Artificial Intelligence	WBAIo40-05							X				X	X

			Learning outcomes of the degree programme											
			1	2	3	4	5	6	7	8	9	10	11	12
Period	Course	Course code	Year 3 compulsory courses											
2a-2b (1a-1b)	Bachelor's Project ¹	WBAIo901-15											X	X
Period	Course	Course code	Year 3 - course units in Specialisation(s) and Electives											
1a	Agent Technology Practical	WBAIo46-05	X			X		X		X		X	X	
1a-1b	AI Engineering Practical	WBAIo80-10		X							X	X	X	X
1a	Cognitive Modelling Practical	WBAIo20-05	X		X					X			X	X
1a	Computational Modelling of the Brain	WBAIo79-05	X	X	X				X		X		X	
1a	Introduction to Robotics	WBAIo67-05				X				X		X	X	X
1a	Large Language Models	WBAIo68-05					X		X		X	X	X	
1a	Legal Aspects of AI	WBAIo84-05											X	X
1a	Neural Networks	WBAIo28-05		X					X	X	X	X		
1a	Reinforcement Learning	WBAIo61-05		X		X		X				X	X	X
1b	Knowledge Technology practical	WBAIo14-05	X					X				X		X
1b	Language Technology Practical	WBAIo27-05		X			X					X	X	
1b	Neural Computation	WBAIo78-05		X	X					X				
1b	Reinforcement Learning Practical	WBAIo15-05		X						X			X	
1b	Social Robotics	WBAIo71-05				X				X			X	
2a	Computational Methods in Neuroscience Practical	WBAIo77-05			X					X		X	X	X
2a	Human Language Learning	WBAIo72-05					X			X				
2a	Hybrid Intelligence	WBAIo69-05	X	X	X			X	X			X	X	
2a	Social Robotics Practical	WBAIo62-05				X						X	X	
2b	Human Factors	WBAIo55-05						X		X			X	X
2b	Robotics Practical	WBAIo66-05				X				X		X	X	X
2b	Structural Analysis of Language for Cognitive Modelling	WBAIo52-05					X							
2b	Uncertainty in Machine Learning	WBAIo54-05		X					X		X	X		

¹ The learning outcomes in the Bachelor's Project can differ depending on the type of project.