Assessment plan for the curriculum of the Master'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 stimulate students to develop strong academic skills in addition to mastery of content, assessment will include the diversity of skills relevant to a professional in AI, which each have a substantial contribution to the final grade
2. to prepare students for their future careers, authentic assessment, geared towards future work, will be implemented where possible
3. to stimulate students' ability for critical reflection, assessment will include components for self and peer evaluation
4. 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

5. all courses need a minimum of two assessment activities
6. final tests or assessments that contribute substantially to the final grade are reviewed by a second examiner
7. 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%.
8. how students can use supporting materials and supporting (AI) tools is explicitly stated for all graded assignments
9. 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
10. in all courses where the use of supporting materials or supporting tools is prohibited, a supervised assessment item is included
11. for group work, part of the grade can be dedicated to criteria related to collaboration and organization within groups
12. 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 *At the end of the programme, the master graduate …*	
1	demonstrates knowledge, understanding and the ability to evaluate, analyse and interpret relevant data, all on a level that builds on and surpasses the level of the bachelor Artificial Intelligence, in at least five (four, for the master graduate in Artificial Intelligence track Science, Business and Policy) of the research areas below. In one research area of Artificial Intelligence the master has specialised knowledge at an advanced level. a. The symbolic approach to Artificial Intelligence b. The numerical, non-symbolic approach to Artificial Intelligence c. Computational theories of perception and cognition d. Agent systems e. Linguistics and language technology f. Autonomous systems and robotics g. Machine learning and pattern recognition
2	(except for the master graduate in track Science, Business and Policy) demonstrates knowledge and understanding, on a level that builds on and surpasses the level of the bachelor Artificial Intelligence, in the empirical sciences (Psychology, Biology and Physics) and has experience applying and analysing results thereof.
3	demonstrates relevant knowledge and the ability to apply methods and techniques from mathematics and logic used in Artificial Intelligence.
4	demonstrates relevant knowledge and the ability to use algorithms, data structures and important programming languages used in Artificial Intelligence.
5	has the ability to, on an international academic level, analyse problems, critically and constructively review both one's own and other scientific results, even if incomplete, and communicate about this both individually as in a group, both oral and in written form, also in a broader societal context, to both specialists and non-specialists.
6	has the ability to critically reflect on their own working method and knowledge and to recognize the need for continued learning on a high degree of autonomy, and is able to understand the scientific developments within the field of Artificial Intelligence.
Additionally, the master graduate in Artificial Intelligence in the track Science, Business and Policy …	
7	has an understanding of the way in which businesses and policy organizations are functioning (governments and non-governmental organizations, NGO's).
8	understands the connections between natural science research, business, and policy.
9	is able to integrate aspects of natural science, business and management.
10	has developed their social and communicative skills, is able to work project-based, and is capable of taking professional responsibility.

4. 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.
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 methods	Does (part of the) assessment have a formative function?	Test moment(s) (e.g. mid-term (MT), end-term (ET), continuous assessment (CA), etc)	First examiner	Second examiner
Mandatory Course Units									
1	1a	Responsible AI	WMAI029-05	5	WE, P, R	No	ET	J.J. Schoeffer	M.A. Valdenegro Toro
1	1a	Design of Multi-Agent Systems	WMAI004-05	5	R, P, PE	Yes	MT, ET	H.A. de Weerd	H.B. Verheij
1	1a	Advanced Machine Learning	WMAI030-05	5	WE, AST, R	No	CA, ET	J.S. Dibangoye	M. Sabatelli
1	1b	Deep Learning	WMAI017-05	5	WE/MC, AST	No	CA, ET	M.A. Valdenegro Toro	M. Sabatelli
1	2a	Methodology in Artificial Intelligence	WMAI026-05	5	P, R, AST, PE	Yes	CA, ET	M.A. Valdenegro Toro	J.S. Dibangoye
1	2b	Natural Language Processing with Deep Learning	WMAI031-05	5	R, P	No	MT, ET	Y. Ziser	T.M. Tashu
2	1a-2b	Final Research Project AI [1]	WMAI901-45	45	R, P	Yes	ET	Project supervisor **	Project supervisor **
2	1a	Introduction Science and Business [2]	WMSE001-10	10	*	*	*	*	*
2	1a-1b	Introduction Science and Policy [2]	WMSE002-10	10	*	*	*	*	*
2	1b-2b	Work Placement Business and Policy [2]	WMSE902-40	40	*	*	*	*	*
2	2a-2b	Research Project AI for SBP [2]	WMAI039-15	15	R, P	Yes	ET	Project Supervisor **	Project Supervisor **
Course Units in Specialisation(s) and Electives									
2	1a	Arguing Agents	WMAI001-05	5	WE	No	ET	H.B. Verheij	L.C. Verbrugge
1, 2	1a-2b	Artificial Intelligence Challenges [1]	WMAI040-10	10	R, P	No	ET	Project Supervisor **	Project Supervisor **
2	1a	Control Methods for Robotics	WMAI037-05	5	R, P	Yes	MT, ET	R. Carloni	S.H. Mohades Kasaei
2	1a	Legal Aspects of AI	WMAI042-05	5	AST	No	CA, ET	I.Varosanec	J. Milaj-Weishaar

Year	Period	Course	Course code	EC	Assessment methods	Does (part of the) assessment have a formative function?	Test moment(s) (e.g. mid-term (MT), end-term (ET), continuous assessment (CA), etc)	First examiner	Second examiner
2	1a	Multi-agent Reinforcement Learning	WMAI033-05	5	WE, AST, R	Yes	CA, ET	J.S. Dibangoye	M. Sabatelli
1, 2	1b	Advanced Hybrid Intelligence	WMAI036-05	5	R, P, WE	Yes	CA, ET	H.A. de Weerd	J.J. Schoeffer
1, 2	1b	Cognitive Robotics	WMAI003-05	5	R, P, PR, AST	No	CA, ET	S.H. Mohades Kasaei	R. Carloni
1, 2	1b	Computational Social Choice	WMAI016-05	5	R, AST	No	CA, ET	D. Grossi	L.C. Verbrugge
1, 2	1b	Fundamental Proofs in AI	WMAI043-05	5	WE, P, AST	Yes	CA, ET	Z.L. Christoff	L.C. Verbrugge
1, 2	1b	Logical Aspects of Multi-agent Systems	WMAI020-05	5	AST, PR, P, WE/OR	Yes	CA, ET	L.C. Verbrugge	J.D. Top
1, 2	1b	Unsupervised Deep Learning	WMAI038-05	5	WE, PR, R	No	CA, ET	Q. Li	M.A. Dhali
1, 2	2a	Collective Intelligence	WMAI023-05	5	WE, AST	Yes	CA, ET	Z.L. Christoff	L.C. Verbrugge
1, 2	2a	Computational Game Theory	WMAI035-05	5	R, AST	No	CA, ET	D. Grossi	H.A. de Weerd
1, 2	2a	Neuroprosthetics	WMAI028-05	5	AST	Yes	ET	A.I. Sburlea	R. Carloni
1, 2	2a	Robotics for AI	WMAI011-05	5	R, PR	Yes	CA, ET	R. Carloni	S.H. Mohades Kasaei
1, 2	2b	Deep Learning Practical	WMAI034-05	5	R, P, AST, PR, PE	Yes	CA, ET	M.A. Dhali	J.S. Dibangoye
1, 2	2b	Deep Reinforcement Learning	WMAI024-05	5	WE, AST	No	CA, ET	M. Sabatelli	J.S. Dibangoye
1, 2	2b	Human-Robot Interaction for Social Robots	WMAI027-05	5	R, P, AST	Yes	CA, ET	P.A. Vogt	R. Carloni

[1] Not applicable for students in SBP track

[2] Only applicable for students in SBP track

* 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 Final Research projects in the Artificial Intelligence Master's Programme:

- Drs. J.O. van Bijsterveld
- 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. S.H. Mohades Kasaei
- dr. Q. Li
- dr. J.C. van Rij – Tange
- dr. M. Sabatelli

- dr. A.I. Sburlea
- dr. M.B. Schippers
- dr. J.J. Schoeffer
- 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 *(7-10 only applicable for SBP track)*									
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Period	**Course**	**Course code**	**Year 1 - compulsory courses**									
1a	Responsible AI	WMAI029-05	X			X	X	X				
1a	Design of Multi-Agent Systems	WMAI004-05	d			X	X					X
1a	Advanced Machine Learning	WMAI030-05	a, b, g	X	X	X	X	X				
1b	Deep Learning	WMAI017-05	b, g		X	X	X					
2a	Methodology in Artificial Intelligence	WMAI026-05	X		X	X	X	X		X		X
2b	Natural Language Processing with Deep Learning	WMAI031-05	e			X		X				
Period	**Course**	**Course code**	**Year 2 - compulsory courses**									
1a-2b	Final Research Project AI [1, 3]	WMAI901-45		X	X	X	X	X				
1a	Introduction Science and Business [2]	WMSE001-10					X	X	X	X		X
1a-1b	Introduction Science and Policy [2]	WMSE002-10					X	X	X	X		X
1b-2b	Work Placement Business and Policy [2, 3]	WMSE902-40					X	X			X	X
2a-2b	Research Project AI for SBP [2, 3]	WMAI039-15					X	X			X	X
Period	**Course**	**Course code**	**Course Units in Specialisation(s) and Electives**									
1a	Arguing Agents	WMAI001-05	a, b, d		X							
1a-2b	Artificial Intelligence Challenges [1]	WMAI040-10	a, b, d, e, f, g		X	X	X	X				
1a	Control Methods for Robotics	WMAI037-05	f			X	X	X				
1a	Legal Aspects of AI	WMAI042-05					X	X				
1a	Multi-agent Reinforcement Learning	WMAI033-05	a, b, c, d, f, g	X	X	X	X	X				
1b	Advanced Hybrid Intelligence	WMAI036-05	a, b, c, d				X	X				
1b	Cognitive Robotics	WMAI003-05	b, c, f, g	X	X	X	X	X				
1b	Computational Social Choice	WMAI016-05	a, d	X	X		X	X				
1a	Fundamental Proofs in AI	WMAI043-05			X							
1b	Logical Aspects of Multi-agent Systems	WMAI020-05	a, d		X	X	X					

			Learning outcomes of the degree programme *(7-10 only applicable for SBP track)*									
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1b	Unsupervised Deep Learning	WMAI038-05	g		X	X	X	X				
2a	Collective Intelligence	WMAI023-05	a, d		X		X	X	X			
2a	Computational Game Theory	WMAI035-05	a, d	X	X		X					
2a	Neuroprosthetics	WMAI028-05	f, g	X		X						
2a	Robotics for AI	WMAI011-05	f			X	X	X				
2b	Deep Learning Practical	WMAI034-05	b, f, g		X	X	X					
2b	Deep Reinforcement Learning	WMAI024-05	b, g		X	X	X	X				
2b	Human-Robot Interaction for Social Robots	WMAI027-05	f	X			X					

[1] Not applicable for students in SBP track

[2] Only applicable for students in SBP track

[3] The learning outcomes in projects can differ depending on the type of project.