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

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

Date advice Board of Examiners: May 4, 2026
Submission date to Faculty Board: May 27, 2026

## 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** |
|---|---|
| *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…* | |
| 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. |
| *At the end of the programme, the graduate has knowledge and understanding of…* | |
| 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. |
| *At the end of the programme, the graduate has relevant knowledge and ability…* | |
| 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. |
| *At the end of the programme, the graduate has the ability…* | |
| 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 | WBAI004-05 | 5 | AST | Yes | CA, ET | N.A. Taatgen | L. Vortmann |
| 1 | 1a | Introduction to Neuroscience | WBAI074-05 | 5 | WE, AST | No | CA, ET | L. Vortmann | M.K. van Vugt |
| 1 | 1a-1b | Imperative Programming (for AI) | WBAI003-05 | 5 | WE, AST | Yes | CA, MT, ET | H.A. de Weerd | M.M. Cook |
| 1 | 1a-1b | Calculus for Artificial Intelligence | WBAI048-05 | 5 | WE | No | ST, MT, ET | R. Luppes | A.E. Sterk |
| 1 | 1b | Autonomous Systems | WBAI002-05 | 5 | WE, AST | Yes | CA, ET | P.A. Vogt | R. Carloni |
| 1 | 1b | Introduction to Logic | WBAI012-05 | 5 | WE, AST | Yes | CA, ET | D. Grossi | L.C. Verbrugge |
| 1 | 2a | Algorithms and Data Structures | WBAI018-05 | 5 | WE, AST | Yes | CA, ET | M.M. Cook | H.A. de Weerd |
| 1 | 2a | Cognitive Psychology | WBAI021-05 | 5 | WE, P, AST | No | CA, ET | F. Cnossen | N.A. Taatgen |
| 1 | 2a | General Linguistics | WBAI022-05 | 5 | WE, AST | Yes | CA, ET | S.M. Jones | J.C. van Rij – Tange |
| 1 | 2b | Fundamental Artificial Intelligence | WBAI063-05 | 5 | WE, AST | Yes | CA, EW | J.D. Dibangoye | M. Sabatelli |
| 1 | 2b | Linear Algebra and Multivariable Calculus | WBAI050-05 | 5 | WE, AST, IT | Yes | CA, MT, ET | G.M. van de Ven | Q. Li |
| 1 | 2b | Statistics | WBAI049-05 | 5 | WE, AST | Yes | CA, ET | W.P. Krijnen | H.A. de Weerd |
| 2 | 1a | Introduction to Machine Learning | WBAI056-05 | 5 | WE/MC, AST | No | CA, ET | A.I. Sburlea | M. Dhali |
| 2 | 1a | Knowledge and Agent Systems | WBAI057-05 | 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 | WBAI076-05 | 5 | AST, R, P, PR, PE | Yes | CA, ET | L. Vortmann | M.K. van Vugt |
| 2 | 1b | Architectures of Intelligence | WBAI009-05 | 5 | WE, AST | Yes | CA, ET | J.P. Borst | N.A. Taatgen |
| 2 | 1b | Object-Oriented Programming (for AI) | WBAI045-05 | 5 | WE, PR, AST | Yes | CA, ET | H.A. de Weerd | M.M. Cook |
| 2 | 1b | Signals and Systems (for AI) | WBAI016-05 | 5 | WE, AST | Yes | CA, ET | Q. Li | H.A. de Weerd |
| 2 | 2a | Advanced Logic | WBAI017-05 | 5 | WE, AST | Yes | CA, ET | L.C. Verbrugge | J.D. Top |
| 2 | 2a | Natural Language Processing | WBAI059-05 | 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 | WBAI065-05 | 5 | AST, PR, R | Yes | CA, ET | I.P. de Jong | M.A. Valdenegro Toro |
| 2 | 2b | Data Analytics and Communication | WBAI011-05 | 5 | WE, AST, PR | Yes | CA, ET | M.K. van Vugt | H.A. de Weerd |
| 2 | 2b | Ethics in Artificial Intelligence | WBAI040-05 | 5 | WE, P | Yes | CA, ET | Z.L. Christoff | L.C. Verbrugge |
| 3 | 2a-2b (1a-1b) | Bachelor's Project | WBAI901-15 | 15 | R, P | Yes | ET | Project Supervisors ** | |
| **Course Units in Specialisation(s) and Electives** | | | | | | | | | |
| 3 | 1a | Agent Technology Practical | WBAI046-05 | 5 | OR, R, AST, PE | Yes | CA, ET | J.D. Top | H.A. de Weerd |
| 3 | 1a-1b | AI Engineering Practical | WBAI080-10 | 10 | R, P | Yes | CA, ET | M.B. Schippers | Y. Ziser |
| 3 | 1a | Cognitive Modelling Practical | WBAI020-05 | 5 | R, P, AST | Yes | CA, ET | J.P. Borst | S.M. Jones |
| 3 | 1a | Computational Modelling of the Brain | WBAI079-05 | 5 | WE, AST | Yes | CA, ET | C.L. Sibert | J.P. Borst |
| 3 | 1a | Introduction to Robotics | WBAI067-05 | 5 | AST, WE | Yes | CA, ET | R. Carloni | S.H. Mohades Kasaei |
| 3 | 1a | Large Language Models | WBAI068-05 | 5 | R, P, PR, AST | No | CA, ET | T.M. Tashu | Y. Ziser |
| 3 | 1a | Legal Aspects of AI | WBAI084-05 | 5 | AST | No | CA, ET | I. Varosanec | J. Milaj-Weishaar |
| 3 | 1a | Neural Networks | WBAI028-05 | 5 | WE, AST | Yes | CA, ET | G.M. van de Ven | M. Sabatelli |
| 3 | 1a | Reinforcement Learning | WBAI061-05 | 5 | WE, P | Yes | CA, ET | M. Sabatelli | J.S. Dibangoye |
| 3 | 1b | Knowledge Technology practical | WBAI014-05 | 5 | R, P, PR | No | CA, ET | H.B. Verheij | L.C. Verbrugge |
| 3 | 1b | Language Technology Practical | WBAI027-05 | 5 | R, PR, AST, P | No | CA, ET | T.M. Tashu | Y. Ziser |
| 3 | 1b | Neural Computation | WBAI078-05 | 5 | WE/MC, AST | Yes | CA, ET | M.M. Cook | J.P. Borst |

| 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 | Reinforcement Learning Practical | WBAI015-05 | 5 | R, P | No | ET | M. Sabatelli | J.D. Dibangoye |
| 3 | 1b | Social Robotics | WBAI071-05 | 5 | AST, R, P | Yes | CA, ET | P.A. Vogt | S.H. Mohades Kasaei |
| 3 | 2a | Computational Methods in Neuroscience Practical | WBAI077-05 | 5 | AST, P, R, PE | No | CA, ET | L. Vortmann | C.L. Sibert |
| 3 | 2a | Human Language Learning | WBAI072-05 | 5 | WE, AST | Yes | CA, ET | J.C. van Rij-Tange | S.M. Jones |
| 3 | 2a | Hybrid Intelligence | WBAI069-05 | 5 | R, AST, WE | Yes | CA, ET | H.A. de Weerd | J.J. Schoeffer |
| 3 | 2a | Probability Theory (for AI) | WBAI085-05 | 5 | AST, WE | Yes | CA, ET | S.A. Donderwinkel | M.A. Valdenegro Toro |
| 3 | 2a | Social Robotics Practical | WBAI062-05 | 5 | AST, R, P | Yes | CA, ET | P.A. de Vogt | S.H. Mohades Kasaei |
| 3 | 2b | Human Factors | WBAI055-05 | 5 | R, PR, P | Yes | CA, ET | C.L. Sibert | M.B. Schippers |
| 3 | 2b | Robotics Practical | WBAI066-05 | 5 | AST, PR | Yes | CA, ET | R. Carloni | P.A. Vogt |
| 3 | 2b | Structural Analysis of Language for Cognitive Modelling | WBAI052-05 | 5 | AST | Yes | CA | S.M. Jones | J.C. van Rij-Tange |
| 3 | 2b | Uncertainty in Machine Learning | WBAI054-05 | 5 | WE, AST | No | CA, ET | M.A. Valdenegro Toro | I.P. de Jong |
| **University Minor Artificial Intelligence** | | | | | | | | | |
| 3 | 1a | AI and Law | RGBSP70005 | 5 | * | * | * | * | * |
| 3 | 1a | Machine Learning | LIX040B05 | 5 | * | * | * | * | * |
| 3 | 1a | Overview of AI | WBAI081-05 | 5 | WE | Yes | ET | N.A. Taatgen | L. Vortmann |
| 3 | 1b | Final Project Minor AI | WBAI083-05 | 5 | AST, R, P | Yes | CA, ET | M.K. van Vugt | P.P.M. Bakker |
| 3 | 1b | Foundation Models | LIX052B05 | 5 | * | * | * | * | * |
| 3 | 1b | Humans and AI | WBAI082-05 | 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:

- 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. 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. 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** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **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 | WBAI004-05 | X | X | | | X | | X | X | X | | X | X |
| 1a | Introduction to Neuroscience | WBAI074-05 | | | X | | | | X | X | | | | X |
| 1a-1b | Calculus for Artificial Intelligence | WBAI048-05 | | | | | | | | | X | | | |
| 1a-1b | Imperative Programming (for AI) | WBAI003-05 | | | | | | | | | | X | | |
| 1b | Autonomous Systems | WBAI002-05 | | | | X | | | | | | | X | |
| 1b | Introduction to Logic | WBAI012-05 | X | | | | | X | | | X | | | |
| 2a | Algorithms and Data Structures | WBAI018-05 | | | | | | | | | | X | | |
| 2a | Cognitive Psychology | WBAI021-05 | | | | | | | | X | | | X | |
| 2a | General Linguistics | WBAI022-05 | X | | | | X | | | | | | | |
| 2b | Fundamental Artificial Intelligence | WBAI063-05 | X | | | | | | | | | | | |
| 2b | Linear Algebra and Multivariable Calculus | WBAI050-05 | | | | | | | | | X | | | |
| 2b | Statistics | WBAI049-05 | | | | | | | | | X | | X | |
| **Period** | **Course** | **Course code** | **Year 2 compulsory courses** | | | | | | | | | | | |
| 1a | Introduction to Machine Learning | WBAI056-05 | | X | | | | | | | X | X | | |
| 1a | Knowledge and Agent Systems | WBAI057-05 | X | | | | | X | | | | X | | |
| 1a | Scientific Skills | WBAI076-05 | | | X | | | | | X | | X | X | X |
| 1b | Architectures of Intelligence | WBAI009-05 | X | | X | | | | | X | | | X | |
| 1b | Object-Oriented Programming (for AI) | WBAI045-05 | | | | | | | | | | X | | |
| 1b | Signals and Systems | WBAI016-05 | | | | X | | | | | X | X | X | X |
| 2a | Advanced Logic | WBAI017-05 | X | | | | | | | | X | | | |
| 2a | Natural Language Processing | WBAI059-05 | | | | | X | | | | X | | X | |
| 2a | Philosophy of AI and Cognition | FI203AI | | | | | | | X | | | | | |
| 2b | Applied Machine Learning | WBAI065-05 | | X | | | | | | | | X | X | X |
| 2b | Data Analytics and Communication | WBAI011-05 | | X | | | | | | X | | | X | |
| 2b | Ethics in Artificial Intelligence | WBAI040-05 | | | | | | | 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] | WBAI901-15 | | | | | | | | | | | X | X |
| **Period** | **Course** | **Course code** | **Year 3 - course units in Specialisation(s) and Electives** | | | | | | | | | | | |
| 1a | Agent Technology Practical | WBAI046-05 | X | | | X | | X | | X | | X | X | |
| 1a-1b | AI Engineering Practical | WBAI080-10 | | X | | | | | | | X | X | X | X |
| 1a | Cognitive Modelling Practical | WBAI020-05 | X | | X | | | | | X | | | X | X |
| 1a | Computational Modelling of the Brain | WBAI079-05 | X | X | X | | | | X | | X | | X | |
| 1a | Introduction to Robotics | WBAI067-05 | | | | X | | | | X | | X | X | X |
| 1a | Large Language Models | WBAI068-05 | | | | | X | | X | | X | X | X | |
| 1a | Legal Aspects of AI | WBAI084-05 | | | | | | | | | | | X | X |
| 1a | Neural Networks | WBAI028-05 | | X | | | | | X | X | X | X | | |
| 1a | Reinforcement Learning | WBAI061-05 | | X | | X | | X | | | | X | X | X |
| 1b | Knowledge Technology practical | WBAI014-05 | X | | | | | X | | | | X | | X |
| 1b | Language Technology Practical | WBAI027-05 | | X | | | X | | | | | X | X | |
| 1b | Neural Computation | WBAI078-05 | | X | X | | | | | X | | | | |
| 1b | Reinforcement Learning Practical | WBAI015-05 | | X | | | | | | X | | | X | |
| 1b | Social Robotics | WBAI071-05 | | | | X | | | | X | | | X | |
| 2a | Computational Methods in Neuroscience Practical | WBAI077-05 | | | X | | | | | X | | X | X | X |
| 2a | Human Language Learning | WBAI072-05 | | | | | X | | | X | | | | |
| 2a | Hybrid Intelligence | WBAI069-05 | X | X | X | | | X | X | | | X | X | |
| 2a | Probability Theory (for AI) | WBAI085-05 | | | | | | | | | X | X | | |
| 2a | Social Robotics Practical | WBAI062-05 | | | | X | | | | | | X | X | |
| 2b | Human Factors | WBAI055-05 | | | | | | X | | X | | | X | X |
| 2b | Robotics Practical | WBAI066-05 | | | | X | | | | X | | X | X | X |
| 2b | Structural Analysis of Language for Cognitive Modelling | WBAI052-05 | | | | | X | | | | | | | |
| 2b | Uncertainty in Machine Learning | WBAI054-05 | | X | | | | | X | | X | X | | |

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