Appendices OER Bachelor's Degree Programme Artificial Intelligence
2017 - 2018

Appendix I Learning Outcomes of the Bachelor's Degree Programme Artificial Intelligence
(Article 1.3.a)

The bachelor demonstrates knowledge, understanding, and the ability to evaluate, analyze 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.

The bachelor 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 analyzing results thereof.

The bachelor 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.

The bachelor has the ability

11. on an academic level, to analyze 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.

Appendix II Majors and Minors of the Degree Programme (Article 2.1.4)

The degree programme has the following **Major**:
  – Artificial Intelligence

Appendix III Course Units in the Propaedeutic Phase
(List of Course Units; Article 3.1.1)

The post-propaedeutic phase comprises a number of mandatory course units, each with a student workload of 5 ECTS credit points unless stated otherwise, listed in the table below. The different modes of assessment and whether a course unit includes a practical are described per course unit in the assessment plan of the BSc Artificial Intelligence of the respective academic year.

Course unit name
Algorithms and Data Structures in C [**INBADC-09**]
Artificial Intelligence 1 [**KIB.KI103**]
Autonomous Systems [**KIB.AS03**]
Basic Scientific Skills [**KIB.WBV06**]
Calculus for Artificial Intelligence [**WPMA14003**]
Cognitive Psychology [**KIB.CP06**]
General Linguistics [**KIB.ATW03**]
Human Factors [**PSB3E-CP04**]
Imperative Programming [**INBIMP-09**]
Introduction to Artificial Intelligence [**KIB.ORKI03**]
Introduction to Logic [**WPAI14001**]
Linear Algebra and Multivariable Calculus [**WPMA14005**]

Appendix IV Course Units in the Post-propaedeutic Phase (List of Course Units; Article 6.1.1)

The post-propaedeutic phase comprises a number of mandatory course units, each with a student workload of 5 ECTS unless stated otherwise, listed in the table below. The different modes of assessment and whether a course unit includes a practical are described per course unit in the assessment plan of the BSc Artificial Intelligence of the respective academic year.

Course unit name
Advanced Logic [**KIB.VL03**]
Architectures of Intelligence [**KIB.AVI03**]
Artificial Intelligence 2 [**KIB.KI203**]
Biopsychology [**PSBE1-04**]
Knowledge and Agent Technology [**KIB.KT03**]
Language and Speech Technology [**KIB.TST03**]
Neural Networks [**KIB.NNKI03**]
Neurophysics (Physics for Artificial Intelligence) [**KIB.NF07**]
Object-Oriented Programming [**INBOGP-08**]
Philosophy of Cognitive Science [**FI053CW**]
Research Methods (Data Analytics and Communication) [**KIB.OZM10**]
Signals and Systems [**KIB.SENS12**]
Statistics [**WISTAKI-07**]
Bachelor's Project[a] [**KIB.PROJ03**]
Students must choose 15 ECTS worth of the following practicals[c]
Autonomous Systems Practical [**KIB.PAS05**]
Autonomous Systems Practical Extension[b] [**WPAI14001**]
Cognitive Science Practical [**KIB.PRCS08**]
Knowledge Technology Practical [**KIB.PKT10**]
Language Technology Practical [**KIB.PTT07**]

a) This course yields 10 ECTS credit points.
b) This course can only be taken directly in succession to Autonomous Systems Practical.
c) It is possible to take more than 15 ECTS credit points in practicals, if students use their elective space for the additional practicals.

The post-propaedeutic phase comprises the following elective course units (each with a student workload of 5 ECTS unless stated otherwise):

Students can choose from the following list of course units without needing approval of the Board of Examiners:
(please refer to the teaching and examination regulations and curriculum assessment plans of the relevant degree programmes for modes of assessment)

- Cognition and Attention [**PSB3E-CP02**]
- Cognitive Neuroscience [**PSB3E-CP06**]
- Computer Graphics [**INBCG-08**]
- Functional Programming [**INBFP-08**]
- Informaticarecht voor niet-juristen[a,c] [**RGARI70110**]
- Information Security [**INBSEC-08**]
- Introduction to Information Systems [**INBIIS-08**]
- Introduction Intelligent Systems [**INBINTS-08**]
- Learning: Theory and practice [**PSB3E-M14**]
- Logic Programming [**LIX003B05**]
- Human error [**PSB3E-M06**]
- Computational Grammar [**LIX025B05**]
- Parallel Computing [**INBPAR-08**]
- Philosophy of Mind: Body, Brain, Mind[b,c] [**FI142LBG**]
- Philosophy of Science [**FI090WET**]
- Philosophy of Science, Technology & Society[c] [**FI073HH**]
- Philosophy of the Natural Science [**FI153LH**]
- Programming in C++[d] [**RC-C++1; RC-C++2; RC-C++3**]
- Problem Analysis and Design [**WBCS16000**]
- Self-organization of Ecological and Social Systems[c] [**WLB07103**]

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a) This course yields 10 ECTS credit points.
b) This course yields 7.5 ECTS credit points.
c) This course is taught in Dutch.
d) Part I, Part II and Part III combine to a maximum of 8 ECTS credit points. Part I yields 2 ECTS credit points. If you take two out of three parts, you will receive 5 ECTS credit points.

A student *can* take additional practicals from the list of practicals in the mandatory course units list without the formal approval of the Board of Examiners.

Formal approval of the Board of Examiners is required, in case and before a student would like to deviate from these rules (e.g. including course units from other programmes or abroad).

(Compulsory Order of Examinations; Article 8.2)

The examinations for the course units listed below may not be taken before the examinations for the associated course units have been passed:

Course Unit Name	Entry Requirements
Advanced Logic [**KIB.VL03**]	– Introduction to Logic [**WPAI14001**]
Autonomous Systems Practical [**KIB.PAS05**]	– Autonomous Systems [**KIB.AS03**]
Autonomous Systems Practical Extension [**WBAI14001**]	– Autonomous Systems Practical [**KIB.PAS05**]
Bachelor's Project [**KIB.PROJ03**]	– At least 135 ECTS credit points from

	the Bachelor's phase – Statistics [**WISTAKI-07**] – Research Methods (Data Analytics and Communication) [**KIB.OZM10**]
Computational Grammar [**LIX025B05**]	– Logic Programming [**LIX003B05**]
Cognitive Science Practical [**KIB.PRCS08**]	– Cognitive Psychology [**KIB.CP06**] – Statistics [**WISTAKI-07**]
Knowledge Technology Practical [**KIB.PKT10**]	– Knowledge and Agent Technology [**KIB.KT03**]
Language and Speech Technology [**KIB.TST03**]	– General Linguistics [**KIB.ATW03**]
Language Technology Practical [**KIB.PTT07**]	– Language and Speech Technology [**KIB.TST03**]
Neural Networks for Artificial Intelligence [**KIB.NNKI03**]	– Calculus for Artificial Intelligence [**WPMA14003**] – Linear Algebra and Multivariable Calculus [**WPMA14005**]
Neurophysics (Physics for Artificial Intelligence) [**KIB.NF07**]	– Calculus for Artificial Intelligence [**WPMA14003**] – Linear Algebra and Multivariable Calculus [**WPMA14005**]
Philosophy of Science, Technology & Society [**FI073HH**]	– Philosophy of Science [**FI090WET**]
Research Methods (Data Analytics and Communication) [**KIB.OZM10**]	– Statistics [**WISTAKI-07**]
Signals and Systems [**KIB.SENS12**]	– Calculus for Artificial Intelligence [**WPMA14003**] – Linear Algebra and Multivariable Calculus [**WPMA14005**]

Appendix V Entry Requirements
(Article 10.2.1)

A. Deficient VWO-diploma

– The following requirements apply to the entrance examination as defined in Article 7.28.3 of the Act:

Bacheloropleiding *Bachelor's degree programme*	N+T	N+G	E+M	C+M
Biologie *Biology*	Biologie	Natuurkunde	Wiskunde A of B Natuurkunde Scheikunde Biologie	Wiskunde A of B Natuurkunde Scheikunde Biologie
Farmacie *Pharmacy*	V	Natuurkunde	Natuurkunde Scheikunde	Wiskunde A of B Natuurkunde Scheikunde
Life Science and Technology Scheikunde *Chemistry* **Scheikundige Technologie** *Chemical Engineering*	V	Wiskunde B Natuurkunde	Wiskunde B Natuurkunde Scheikunde	Wiskunde B Natuurkunde Scheikunde
Informatica *Computing Science* **Technische Bedrijfskunde** *Industrial Engineering and Management* **(Technische) Wiskunde** *(Applied) Mathematics*	V	Wiskunde B	Wiskunde B	Wiskunde B
Kunstmatige Intelligentie *Artificial Intelligence*	V	V	V	Wiskunde A of B
(Technische) Natuurkunde *(Applied) Physics* **Sterrenkunde** *Astronomy*	V	Wiskunde B Natuurkunde	Wiskunde B Natuurkunde	Wiskunde B Natuurkunde

– Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).
– The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

B. HBO (university of applied science) propaedeutic certificate, other universities

1. The following requirements apply to the entrance examination as defined in Article 7.28.3 of the Act:

Bachelor's degree programme	Subjects at VWO (pre-university) level	Requirement: Dutch as a Second Language (programme II) for non-native speakers of Dutch
B Biology	wia or wib + na+sk+bio	Yes
B Pharmacy	wia or wib + na+sk	Yes
B Life Science and Technology	wib+na+sk	Yes
B Computing Science	wib	
B Artificial Intelligence	wia or wib	
B Physics	wib+na	
B Chemistry	wib+na+sk	
B Astronomy	wib+na	
B Mathematics	wib	
B Chemical Engineering	wib+na+sk	
B Industrial Engineering and Management Science	wib	
B Applied Physics	wib+na	
B Applied Mathematics	wib	

wia = Mathematics A; wib = Mathematics B; na = Physics; sk = Chemistry; bio = Biology

2. Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).

3. In addition, candidates are required to be competent in English:

IELTS (Academic)	6.5 - no less than 6.0 on each section
TOEFL IBT (internet-based test)	92 - no less than 21 on each section
TOEFL CBT (computer-based test)	237 - no less than 21 on each section
TOEFL PBT (paper-based test)	580 - no less than 55 on each section
Cambridge English	CAE or CPE Certificate
English language test - University of Groningen Language Centre	Minimum section scores C2 or C1 (one B2 allowed)

4. The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

C. Foreign qualifications (EEA)

1. Any certificate that grants access to a university in a European country will also grant access to Dutch universities.

2. In the entrance examination, as referred to in art. 7.28, paragraph 3 of the Act, per country and educational institution specific training conditions are mentioned. These are standardized. The entrance examination is, in accordance with the Admissions Board Bachelor's programmes FSE, carried out by the Admissions Office. If for a specific diploma no standardisation has taken place then the requirements as formulated for candidates with a HBO (university of applied science) propaedeutic certificate will apply to these candidates in the entrance examination as defined in Article 7.28.3 of the Act (see A).

3. Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).

4. In addition, candidates are required to be competent in English:

IELTS (Academic)	6.5 - no less than 6.0 on each section
TOEFL IBT (internet-based test)	92 - no less than 21 on each section
TOEFL CBT (computer-based test)	237 - no less than 21 on each section
TOEFL PBT (paper-based test)	580 - no less than 55 on each section
Cambridge English	CAE or CPE Certificate
English language test - University of Groningen Language Centre	Minimum section scores C2 or C1 (one B2 allowed)

5. The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

D. Foreign qualifications (non-EEA)

–   A non-European certificate that according to NUFFIC and/or NARIC standards is equivalent to a Dutch VWO certificate will grant access to university in the Netherlands.

–   In the entrance examination, as referred to in art. 7.28, paragraph 3 of the Act, per country and educational institution specific training conditions are mentioned. These are standardized. The entrance examination is, in accordance with the Admissions Board Bachelor's programmes FSE, carried out by the Admissions Office. If for a specific diploma no standardisation has taken place then the requirements as formulated for candidates with a HBO (university of applied science) propaedeutic certificate will apply to these candidates in the entrance examination as defined in Article 7.28.3 of the Act (see A).

–   Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).

–   In addition, candidates are required to be competent in English:

IELTS (Academic)	6.5 - no less than 6.0 on each section
TOEFL IBT (internet-based test)	92 - no less than 21 on each section

TOEFL CBT (computer-based test)	237 - no less than 21 on each section
TOEFL PBT (paper-based test)	580 - no less than 55 on each section
Cambridge English	CAE or CPE Certificate
English language test - University of Groningen Language Centre	Minimum section scores C2 or C1 (one B2 allowed)

– The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

E. Entrance examination (Colloquium Doctum)

1. The following requirements apply to the entrance examination as defined in Article 7.29 of the Act:

Degree programme	Nature and Health VWO level	or	Nature and Technology VWO level
B Biology	en, wia or b, sk, bio, na		en, wib, na, sk, bio
B Pharmacy	en, wia or b, sk, bio, na		en, wib, na, sk
B Life Science and Technology	en, wib, sk, bio, na		en, wib, na, sk
B Computing Science	en, wib, sk, bio		en, wib, na, sk
B Artificial Intelligence	en, wia or b, sk, bio		en, wib, na, sk
B Physics	en, wib, sk, bio, na		en, wib, na, sk
B Chemistry	en, wib, sk, bio, na		en, wib, na, sk
B Astronomy	en, wib, sk, bio, na		en, wib, na, sk
B Mathematics	en, wib, sk, bio		en, wib, na, sk
B Chemical Engineering	en, wib, sk, bio, na		en, wib, na, sk
B Industrial Engineering and Management Science	en, wib, sk, bio		en, wib, na, sk
B Applied Physics	en, wib, sk, bio, na		en, wib, na, sk
B Applied Mathematics	en, wib, sk, bio		en, wib, na, sk

en = English; wia = Mathematics A; wib = Mathematics B; na = Physics; sk = Chemistry; bio = Biology

1. Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).

2. In addition, candidates are required to be competent in English:

IELTS (Academic)	6.5 - no less than 6.0 on each section
TOEFL IBT (internet-based test)	92 - no less than 21 on each section
TOEFL CBT (computer-based test)	237 - no less than 21 on each section
TOEFL PBT (paper-based test)	580 - no less than 55 on each section
Cambridge English	CAE or CPE Certificate
English language test - University of Groningen Language Centre	Minimum section scores C2 or C1 (one B2 allowed)

3. The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

A. HBO (university of applied science) propaedeutic certificate

1. The following requirements apply to the entrance examination as defined in Article 7.28.3 of the Act:

Degree programme	Subjects at VWO (pre-university) level	Requirement: Dutch as a Second Language (programme II) for non-native speakers of Dutch
B Biology	wia or wib + na+sk+bio	Yes
B Pharmacy	wia or wib + na+sk	Yes
B Life Science and Technology	wib+na+sk	Yes
B Computing Science	wib	
B Artificial Intelligence	wia or wib	
B Physics	wib+na	
B Chemistry	wib+na+sk	
B Astronomy	wib+na	
B Mathematics	wib	
B Chemical Engineering	wib+na+sk	
B Industrial Engineering and Management Science	wib	
B Applied Physics	wib+na	
B Applied Mathematics	wib	

wia = Mathematics A; wib = Mathematics B; na = Physics; sk = Chemistry; bio = Biology

2. Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).

3. The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

B. Foreign qualifications (EEA)

1. Any certificate that grants access to a university in a European country will also grant access to Dutch universities.

2. The same requirements that also apply to candidates with an HBO (university of applied science) propaedeutic certificate will apply to these candidates in the entrance examination as defined in Article 7.28.3 of the Act (see A).

3. Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).

4. In addition, candidates are required to be competent in English: an IELTS score of 6.5, a TOEFL score of 580 (paper-based), of 237 (computer-based) or of 92 (internet-based) or equivalent.

5. The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

C. Foreign qualifications (German)

1. German candidates must have a Zeugnis der Allgemeinen Hochschulreife ('Abitur').
2. The following requirements apply to the entrance examination as defined in Article 7.28.3 of the Act:

Degree programme	
B Biology	wi (LK or GK) na (LK or GK) sk (LK or GK) bio (LK or GK) (at least one subject at Leistungskurs level)
B Pharmacy B Life Science and Technology B Chemistry B Chemical Engineering	wi (LK or GK) na (LK or GK) sk (LK or GK) (at least one subject at Leistungskurs level)
B Computing Science B Mathematics B Applied Mathematics B Artificial Intelligence	wi (LK)
B Physics B Astronomy B Applied Physics	wi (LK) na (LK or GK)
B Industrial Engineering and Management Science	wi (LK or GK) na (LK or GK) (at least one subject at Leistungskurs level)

wi= Mathematics; na = Physics; sk = Chemistry; bio = Biology
LK = Leistungskurs level; GK = Grundkurs level followed until end of Class 13 or Class 12 (if Gymnasium education lasts 12 years).

3. Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).

4. The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

D. Foreign qualifications (International Baccalaureate)

1. The following requirements apply to the entrance examination as defined in Article 7.28.3 of the Act:

Degree programme	from 2010/2011
B Biology	Biology (SL or HL) Maths (SL or HL) Physics (SL or HL) Chemistry (SL or HL) two of these subjects at HL
B Pharmacy B Life Science and Technology B Chemistry B Chemical Engineering	Maths (SL or HL) Physics (SL or HL) Chemistry (SL or HL) two of these subjects at HL
B Computing Science B Mathematics B Applied Mathematics	Maths HL
B Artificial Intelligence	Maths SL **or** Maths HL
B Physics B Astronomy B Applied Physics B Industrial Engineering and Management Science	Maths HL Physics HL

SL = Standard Level, HL = Higher Level

2. Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).

3. The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

E. Foreign qualifications (non-EEA)

1. A non-European certificate that according to NUFFIC and/or NARIC standards is equivalent to a Dutch VWO certificate will grant access to university in the Netherlands.

2. The same requirements that also apply to candidates with an HBO (university of applied science) propaedeutic certificate will apply to these candidates in the entrance examination as defined in Article 7.28.3 of the Act (see A).

3. Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).

4. In addition, candidates are required to be competent in English: an IELTS score of 6.5, a TOEFL score of 580 (paper-based), of 237 (computer-based) or of 92 (internet-based) or equivalent.

5. The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

F. Entrance examination

1. The following requirements apply to the entrance examination as defined in Article 7.29 of the Act:

Degree programme	Nature and Health VWO level	or	Nature and Technology VWO level
B Biology	en, wia or b, sk, bio, na		en, wib, na, sk, bio
B Pharmacy	en, wia or b, sk, bio, na		en, wib, na, sk
B Life Science and Technology	en, wib, sk, bio, na		en, wib, na, sk
B Computing Science	en, wib, sk, bio		en, wib, na, sk
B Artificial Intelligence	en, wia or b, sk, bio		en, wib, na, sk
B Physics	en, wib, sk, bio, na		en, wib, na, sk
B Chemistry	en, wib, sk, bio, na		en, wib, na, sk
B Astronomy	en, wib, sk, bio, na		en, wib, na, sk
B Mathematics	en, wib, sk, bio		en, wib, na, sk
B Chemical Engineering	en, wib, sk, bio, na		en, wib, na, sk
B Industrial Engineering and Management Science	en, wib, sk, bio		en, wib, na, sk
B Applied Physics	en, wib, sk, bio, na		en, wib, na, sk
B Applied Mathematics	en, wib, sk, bio		en, wib, na, sk

en = English; wia = Mathematics A; wib = Mathematics B; na = Physics; sk = Chemistry; bio = Biology

2. Non-native speakers of Dutch who wish to be admitted to the Bachelor's degree programmes in Biology, Life Science and Technology, or Pharmacy must also have passed the State Examination in Dutch as a Second Language, Programme II (NT2-II).

3. The Admissions Board Bachelor's programmes FSE will determine whether deficiencies have been compensated satisfactorily.

Appendix VI Clustering of Bachelor's Degree Programmes (Article 4.3.4, Article 4.6.1)

Degree programme CROHO code	Name of degree programme	Clustered with CROHO code	Name of degree programme
56286	B Life Science and Technology	56860 56157	B Biology B Pharmacy
56860	B Biology	56286 56157	B Life Science and Technology B Pharmacy
56157	B Pharmacy	56860 56286	B Biology B Life Science and Technology
56980	B Mathematics	56965 50206 56962 50205	B Applied Mathematics B Physics B Applied Physics B Astronomy
56965	B Applied Mathematics	56980 50206 56962 50205	B Mathematics B Physics B Applied Physics B Astronomy
50206	B Physics	56962 50205 56965 56980	B Applied Physics B Astronomy B Applied Mathematics B Mathematics
56962	B Applied Physics	50206 50205 56965 56980	B Physics B Astronomy B Applied Mathematics B Mathematics
50205	B Astronomy	56962 56965 50206 56980	B Applied Physics B Applied Mathematics B Physics B Mathematics
56857	B Chemistry	56960	B Chemical Engineering
56960	B Chemical Engineering	56857	B Chemistry

Appendix VII Admission to the Post-propaedeutic Phase (Article 5.1.1)

The following candidates will be admitted to the post-propaedeutic phase:
    Students who have been issued a positive study advice from the degree programme in question

Appendix VIII Contact Hours Propaedeutic Phase (Article 2.4)

Degree Programme Year 1	
Structure Contact Hours	**Contact Hours per Year**
Lectures	Approx. 320
Tutorial	Approx. 200
Tutoring	Approx. 4
Supervision during an internship	0
Final Examinations and Re-examinations	Approx. 60
Mid-term Examinations	Approx. 20
Career Support (FSE General)	Approx. 12
Miscellaneous Sessions (e.g. Q&A)	Approx. 10

Appendix IX University Minors of the Faculty of Science and Engineering
(Article 7.5.1)

4. Minor Neurosciences (taught in English):
    Neuroscience (15 ECTS)
    Behavioural Neuroscience (15 ECTS)

    Minor Future Planet Innovation (taught in English):
    Global Challenges (10 ECTS)
    Sustainability in perspective (5 ECTS)
    Sustainable contributions to society (15 ECTS)

    Minor Astronomy through Space and Time (taught in English):
    The Evolving Universe (5 ECTS)
    Cosmic Origins (5 ECTS)
    Astrobiology (5 ECTS)

    Minor Einstein's Physics: Space-time and parallel worlds (taught in English):
    Einstein's Universe (5 ECTS)
    Quantum World (5 ECTS)
    Building blocks of matter (5 ECTS)

2. The Programme Committee for the Bachelor's degree programmes in Biology and Life Science & Technology also has authority in the field of the Minor "Neurosciences" and/or its course units.

    The Programme Committee for the Master's degree programme in Energy & Environmental Sciences also has authority in the field of the Minor "Future Planet Innovation" and/or its course units.

    The Programme Committee for the Bachelor's degree programme in Astronomy also has authority in the field of the Minor "Astronomy through Space and Time" and/or its course units.

    The Programme Committee for the Bachelor's degree programmes in Physics and Applied Physics also has authority in the field of the Minor "Einstein's physics: Space-time and parallel worlds" and/or its course units.

3. The Board of Examiners for the Bachelor's degree programmes in Biology and Life Science & Technology and the Master's degree programmes in Biology, Ecology & Evolution, Marine Biology and Molecular Biology & Biotechnology also has authority in the field of the Neurosciences Minor and/or its course units.

    The Board of Examiners for the Master's degree programme in Energy & Environmental Sciences also has authority in the field of the Future Planet Innovation Minor and/or its course units.

    The Board of Examiners for the Bachelor's degree programme in Astronomy also has authority in the field of the Astronomy through Space and Time Minor and/or its course

units.

The Board of Examiners for the Bachelor's degree programmes in Physics and Applied Physics also has authority in the field of the Physics Minor "Einstein's physics: Space-time and parallel worlds" and/or its course units.

4. These Teaching and Examination Regulations also apply in their entirety to the Minors in Neurosciences, Future Planet Innovation, Astronomy through Space and Time and Einstein's physics: Space-time and parallel worlds and/or their course units.

Appendix X Transitional Arrangement (Article 12.1)

There are currently no transitional provisions in the Artificial Intelligence degree programme.