Education and Examination Regulations 2023-2024

Bachelor Computing Science

Radboud Universiteit

Table of contents

EER 23-24 BA Computing Science [English version]

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PART I   GENERAL PROVISIONS BACHELOR

Section 1. General provisions

Article 1.1 Applicability of these regulations

1. These Education and Examination Regulations (EER) apply to the Bachelor's programmes (the degree programme in which the student is enrolled is hereinafter referred to as 'the programme'), including all their components, of the Faculty of Science. These EER outline the applicable procedures, rights and obligations concerning teaching, interim examinations and final examinations.
2. The present regulations apply to all students enrolled in the programme in the 2023-2024 academic year. Students who started the degree programme before 1 September 2016 and have been continuously enrolled in this programme may appeal to the EER that were active at the time of their initial enrolment in the programme.
3. Course components provided by different faculties or institutions are subject to the rules applicable at the faculty or institution in question. Components offered by the Faculty of Science are subject to the regulations described in at least one of the EER of the Faculty of Science at all times.
4. The faculty offers the following Bachelor's programmes:
   a. Biology;
   b. Chemistry;
   c. Computing Science;
   d. Molecular Life Sciences;
   e. Physics and Astronomy;
   f. Science;
   g. Mathematics.
5. The degree programmes have a study load of 180 EC.
6. The degree programmes are offered exclusively as full-time programmes.
7. The Biology, Chemistry, Computing Science and Molecular Life Sciences study programmes are taught in English. The other programmes have English components. An overview of this is provided in Article 7.2.

Article 1.2 Executive Board Guidelines

1. In view of the organisation and coordination of the provisions in these regulations, the Executive Board has established the following guidelines: The guidelines can be found in the Appendix:
   a. Distinction Regulations.
   b. Fraud Regulations.
   c. Regulations on and Guidelines for Study Advice in the first year.

Article 1.3 Definition of terms

1. The terms used in these EER, which are also used in the Higher Education and Research Act (Wet op het hoger onderwijs en wetenschappelijk onderzoek, hereinafter, 'the Act') will have the same meaning as in the Act.

2. Apart from the terms referred to in clause 1, the terms below will be understood to have the following meaning:

    a. Degree programme: the Bachelor's programme, as referred to in Article 7.3a, paragraph 1 of the Act;

    b. Component: an educational unit as referred to in Article 7.3 paragraphs 2 and 3 of the Act;

    c. Student: anyone enrolled at Radboud University for participation in a degree programme or in the partial examinations or final examinations of a programme;

    d. Academic year: the period from 1 September in a given year until 31 August of the following year;

    e. practical: a practical exercise as referred to in Article 7.13, paragraph 2 under D of the Act;

    f. Interim examination: an examination testing the knowledge, understanding or skills of the student in relation to a certain unit of study, as well as the assessment of the results of this examination, which is administered by at least one examiner designated by the Examining Board;

    g. Partial examination: an examination of the knowledge, insight and skills of the student, as well as the assessment of the results of the examination, which in conjunction with one or more other partial examinations constitute the interim examination as referred to under clause f. In these regulations, when the term 'examination' is used; this can also be read as 'partial examination', unless explicitly indicated otherwise;

    h. Resit: an opportunity to retake a particular examination as referred to in Article 7.10, paragraph 1 of the Act. In these regulations, when the term examination is used this can also be read as resit, unless explicitly indicated otherwise;

    i. Final examination: an assessment, on the basis of which the Examining Board determines whether all the components pertaining to the Bachelor's programme have been completed successfully. The Examining Board may decide that the final examination also includes an investigation by the Examining Board into the knowledge, insight and skills of the candidate, as well as the assessment of the outcomes of that investigation (in accordance with Article 7.10 WHW);

    j. Final paper: The final paper is an academic aptitude test with respect to the study programme's specific discipline. The programme-specific part of the EER defines what combinations of products and/or assessments are involved in the study programme's final paper. Final papers involve two examiners;

    k. Fraud: any behaviour or negligence on the part of the student that, by its nature, is directed toward making it partly or entirely impossible to properly assess the knowledge, insights and skills of the student or of another student;

    l. Examining Board: the examining board of a degree programme, established in accordance with Article 7.12 of the Act. Also see the Radboud University Structural Regulations;

m. Examiner: the person designated by the Examining Board to administer the interim examinations, in accordance with Article 7.12 of the Act;

n. EC: European Credits, i.e. the study load unit in accordance with the European Credit Transfer System;

o. Work day: Mondays to Fridays, with the exception of official holidays and any other days designated by Radboud University as collective holidays;

p. Awarding of the degree certificate: the formal confirmation that all the final examination requirements have been met;

q. Study guide: the guide containing specific information about one of the Faculty of Science's Bachelor's degree programmes;

r. The University: Radboud University;

s. The faculty: The Faculty of Science;

t. The education institute: the organisational unit responsible for the degree programme;

u. Minor: a cohesive selection of components;

v. Free elective: a freely-selected, academic, assessable component;

w. Dual Bachelor's programme: an integrated programme of two study programmes, which allows students to substitute mandatory components of one Bachelor's programme with components from the other Bachelor's, specified in the EER. The study programmes are run simultaneously. See article 3.3.16 for dual Bachelor's programmes;

x. Rules and regulations: the rules in which the Examination Board explains how it works in accordance with the Education and Examination Regulations.

PART II GENERAL PART

Section 2. Admission to the degree programme and education

Article 2.1 Admission and admission requirements

1. To be admitted to the programme, students must meet the statutory (additional) prior education requirements set out by the Act.
2. Decisions regarding admission are made by the education institute on behalf of the dean.
3. The programme-specific part of these EER lists the admission requirements students must meet to be admitted to the degree programme.

Article 2.2 Substitute requirements for insufficient prior education

Students who have a VWO diploma that does not meet the prior education requirements referred to in Article 2.1 may still enrol, with due observance of the provisions of Article 7.25 paragraph 5 of the Act, on condition that comparable requirements have been met in terms of content, subject to further assessment. The assessment procedure and the requirements are specified in the programme-specific part of these regulations.

Article 2.3 Language requirements

1. Sufficient command of Dutch is required to participate in the programme and to sit examinations in Dutch. Non-Dutch students have met the language requirement for sufficient proficiency in Dutch if they have passed the state examination of Dutch as a second language, level 2.
2. In certain cases, the education institute may assess whether a student is sufficiently proficient in Dutch.
3. Sufficient command of the English language is required to participate in the programme and to sit examinations in English. This requirement is met if the student:
   a. comes from one of the following countries: Australia, Canada (with the exception of Quebec), Ireland, New Zealand, Singapore, the United Kingdom, the United States, and South Africa; or
   b. is in possession of a pre-university education (VWO) diploma; or
   c. is in possession of a pre-university education diploma obtained at an English-language institution in the Netherlands or elsewhere; or
   d. has a pre-university education diploma obtained at a German secondary education institution, with English as Grundkurs/Hauptfach; or
   e. has a Bachelor's diploma from a university of applied sciences (HBO); or
   f. has a Bachelor's diploma from a Dutch university; or
   g. meets the requirements in the opinion of the programme; or
   h. has passed one of the assessments listed below:
      i. the TOEFL with a score of 575 or higher for the paper version;
      ii. the TOEFL with a score of 90 or higher for the Internet version with none of the sub-scores below 20;

Radboud Universiteit

iii. the IELTS with a score of 6.5 or higher, where none of the sub-scores are lower than a 6.0;

iv. the Cambridge CAE or CPE with a score of C or higher.

Section 3. Structure and design

Article 3.1 Final examination, degree and distinctions

1. All Bachelor's programmes conclude with the Bachelor's examination.
2. Students who pass the examinations of the Bachelor's degree programme will be awarded a Bachelor of Science (BSc) degree.
3. The degree referred to in paragraph 2 is awarded exclusively if the student has earned at least half of the EC for their degree programme at this University.
4. The Examination Board can award distinctions to students who have successfully passed the degree programme final examination. The rules for awarding distinctions can be found in the annex in the Distinction Regulations.

Article 3.2 General learning outcomes

1. The degree programme has the following learning outcomes for students:
   a. acquire knowledge, understanding and skills in the relevant area;
   b. develop academic competences;
   c. prepare for further study or a future career.
2. Students who have completed one of the faculty Bachelor's programmes, as referred to in Article 7.10a paragraph 1 of the Act, shall be granted unconditional admission to at least one of the Master's programmes at the University.

Article 3.3 Curriculum

1. The degree programme-specific part of these regulations describes all the components that make up the degree programme.
2. For each section, the lecturer must make a study guide available prior to the start of the academic year, which includes a description of the course, tests with weighting factors and deadlines. Contrary to the above provisions, the course description, weighting factors and course deadlines completed in periods 3 and 4 may still be changed until the start of period 2 with the permission of the programme coordinator. The information in the study guide takes precedence.
3. Some modes of instruction have attendance/participation requirements. If this is the case, this will be mentioned in the course description of the study guide. Regular lectures and seminars do not have attendance/participation requirements.
4. The Bachelor's programmes include a component with a study load of 3 EC for the purpose of reflecting on study performance and planning, as well as boosting the development of academic skills.
   a. A condition for obtaining the course credits (EC) mentioned above is participation in the Academic Language Proficiency course and the corresponding test in the first year of the programme. This does not apply to students who have already completed the course and associated test at Radboud University.

      b. The completion of the Academic Language Proficiency test with a passing grade is not required. A resit for the language test is possible if desired by the student.

5. The degree programme includes a free elective component with a minimal study load of 6 EC. The electives cannot have substantial overlap in content with other components in the nominal space of the study programme.

6. Every programme has a minor component of at least 15 EC in which students can participate in at least one minor.

7. If a minor is not accessible to students of a specific Bachelor's programme, this is mentioned in the programme-specific part of these EER.

8. The minors offered by Radboud University can be found in the study guide. The approval of the Examination Board must be requested if a student wishes to do a minor that is not offered by Radboud University. This minor will be labelled as a "free minor" and needs to meet the following requirements:
   a. the minor encompasses at least 15 EC and at most 30 EC;
   b. the minor is thematically coherent;
   c. there should be no substantial overlap with other parts of the Bachelor's degree programme.

9. The degree programme also includes one or more components of a philosophical nature, in total amounting to at least 3 EC, as well as a writing skills component of 3 EC.

10. Finally, the degree programme includes an individual final aptitude test (hereinafter referred to as the 'Bachelor's thesis') with a study load of 12 EC.

11. In addition to the provisions of paragraph 10, the Bachelor's thesis can be expanded. In all cases where expansion is possible, this will be stated in the programme-specific part of these EER.

12. The composition of the Bachelor's programme compiled by the student must be presented for approval to the Examining Board no later than three months before the expected examination date. The Examining Board will decide whether to grant approval within a month of receiving the submitted programme.

13. Students are permitted to add components to the examination programme. If these components mean that the student exceeds the total study load of 180 EC of the Bachelor's programme, these components are always regarded as extracurricular. This is not an issue if courses have to be split for this purpose. Extra-curricular components do not count towards the determination of the distinction.

14. If a student has a choice between components within the curriculum and the student has passed more than one of these components, then the student can decide which components will count toward their distinction if one or more of the components are extra-curricular.

15. Extracurricular components are admissible if, in the opinion of the Examining Board, the course is testable at an academic level.

16. The two double Bachelor's on offer are: 1) Mathematics, Physics and Astronomy and 2) Mathematics and Computing Science. For students starting in the 2023-2024 academic year and after, there is at most a one-year time difference for starting the study programmes, and certificates have to be applied for separately.

Article 3.4 Sequence of education and interim exams

1. Students may not start the final aptitude assessment (Bachelor's thesis) before obtaining a minimum of 120 EC of the degree programme, including the components of the first year.
2. The programme-specific part of these EER may contain further criteria for the order in which components may be taken and the related interim examinations.

Article 3.5 Types of interim exam

1. Each component of the degree programme is concluded by an interim examination. Interim examinations may comprise more than one modular partial examination and may consist of the following assessment forms:
   a. written test and/or
   b. oral test and/or
   c. presentation and/or
   d. skills test and/or
   e. the creation of a discipline-specific product and/or assignment.
2. Prior to the beginning of the academic year, information will be provided in the study guide on each individual component regarding how the interim examinations will be administered and how their results will be determined, taking the weighting of any partial exams into account. At the request of the student or the examiner, the Examining Board may allow an exam to be taken in a form other than preciously announced, if this is not to the detriment of the student.
3. In cases where an interim examination has admission requirements, the admission requirements will be published in the prospectus before the start of the academic year, see Article 3.4, paragraph 2. This requires permission from the programme coordinator. Contrary to the above provisions, the admission requirements for the courses completed in the third and fourth period may still be changed up until the start of the second period, with permission from the programme coordinator.
4. An interim examination has no entry requirements. If students are enrolled in a component, they are admitted to all sub-components, including the interim examination.
5. Students with functional impairments are given the opportunity to take exams in a manner appropriately suited to their impairment. The Examining Board shall, if necessary, seek expert advice and counsel prior to reaching its decision. If the students in question require certain facilities for their interim examinations, they must request these from the Education and Examination Administration of the faculty no later than two weeks before the interim examination.
6. During oral examinations, no more than one person is tested at a time, unless decided otherwise by the Examination Board.
7. Oral interim examinations are not public, unless the Examining Board has deemed otherwise in exceptional cases. Oral exams are recorded or a second examiner or designated observer will be present.

Radboud Universiteit

Article 3.6 Exemptions

1. At the request of the student and having heard the examiner involved, the Examination Board may exempt the student, either partially or fully, from sitting for an interim examination if the student:
    a. has completed a course in a relevant subject at a university or institute of higher vocational education (HBO);
    b. demonstrates that they have adequate knowledge and skills regarding the component in question as a result of relevant work or professional experience.
3. If the degree programme allows group exemptions, then these are included in the programme-specific part of these regulations.
4. Only one grade for each course may be registered for a single degree programme. If a course is also part of another examination programme, this course will be listed on the qualification as an exemption on the other diploma.
5. Students who were first enrolled after 1 September 2017 can never have more than 70 EC of exemptions, as stated in paragraph 1.
6. All results for a degree programme achieved before the date of the first enrolment are stated as exemptions on the degree programme's diploma. These exemptions do not count towards the 70 EC as stated in clause 4 if the courses are only included in one examination programme.
7. Exemptions as referred to in paragraph 1 cannot be granted for the Bachelor's thesis.
8. As an exception to the provision in paragraph 6, students who do dual Bachelor's programmes can receive exemptions for a Bachelor's thesis if they have completed a Bachelor's thesis for another programme within the Faculty of Science.

Article 3.7 Term of validity for successfully completed interim exams

1. The term of validity of successfully completed interim examinations is unlimited.
2. Passed partial exams are valid indefinitely, unless the lecturer specifies otherwise. The interim examinations are valid at least until the end of the academic year.
3. A successfully passed examination may be taken again. If a student resits an exam, the last result obtained is always valid for the study programme in which the exam is resit.

Article 3.8 Elective programmes

The programme Examining Board shall decide on a request for authorisation to follow a free elective as referred to in Article 7.3d of the WHW. The Examination Board will verify whether the programme fits within the domain of the degree programme under the authority of the Examination Board, whether it is sufficiently cohesive, and whether the level is adequate in the context of the programme's exit qualifications. The programme-specific part of these EER may contain further criteria for the order in which components may be taken and the related interim examinations.

Section 4. Examinations

Article 4.1 Frequency of interim examinations

1. Students are given the opportunity to take the examinations at least twice per academic year per interim examination.

2. Contrary to the provisions of paragraph 1, a degree programme coordinator may decide to offer only one opportunity for an interim examination or partial examination. If only one opportunity is given to take an interim examination or partial examination, this is stated in the programme study guide before the start of the academic year.

3. Notwithstanding the provisions in the first paragraph, there will be at least one opportunity in the following year to take an interim examination for a course that was taught for the final time in a particular academic year.

4. If a certain component is not given in a particular academic year, the opportunity to take the corresponding examination will be offered once in that academic year, as long as the interim examination is administered in written or oral form.

Article 4.2 Registration for course examinations

1. Students who register through Osiris for a component are automatically registered for the first interim examination opportunity in the relevant academic year. This does not apply to students whose enrolment in the degree programme has not yet been completed.

2. Students can register for an examination right up until 11:59 pm on the day prior to a period of five working days before the date of the examination. Registration is no longer possible after this date, unless the head of Education Centre decides otherwise in special cases on behalf of the dean.

Article 4.3 Confirmation of examination results

1. The result of an interim examination is determined by an examiner in the form of a grade on a scale from 1 (lowest possible grade) to 10 (the highest possible grade), consisting exclusively of whole numbers or half numbers. However, a grade of 5.5 is never given. When rounding off between 5 and 6, the rule is that a grade lower than 5.5 is rounded down to a five (5) which is an insufficient grade, meaning the educational component has not been successfully completed; while a 5.5 and higher is rounded up to a six (6), meaning that the educational component has been successfully completed. In addition to results that take the form of a grade, an assessment of 'completed' ('voldaan' - V), 'not completed' ('niet voldaan' - NV), 'pass' ('voldoende' - VLD), 'fail' ('onvoldoende' - OV), 'good' ('goed' - G) and 'very good' ('zeer goed' - ZG) may also be awarded.

2. Notwithstanding the provisions of paragraph 1, partial examinations may also be graded to one decimal point on a scale of 1 to 10. Rounding off of grades is only done for the final grade of the component.

Article 4.4 Publication of results

1. The examiner shall determine the result of the Bachelor's final project within 15 working days after the presentation of the Bachelor's final project has taken place and after the final project has been submitted, using the method specified in the study guide.

2. The examiner shall determine the result of a written interim examination within 10 working days of the date it was administered for interim examinations in the first year of the degree programme, and within 15 working days for interim examinations in the other years of the

Radboud Universiteit

degree programme. Here, the precondition applies that there must be at least ten working days between the date of the publication of the result in Osiris and the date of the resit.

3. Contrary to the provisions in paragraph 2, the examiner shall determine the result of an interim examination in the fourth period no later than nine days before the scheduled date of the corresponding resit. The lecturer always has at least five working days after the written examination to determine the result.

4. Contrary to the provisions set out in paragraph 2, the examiner shall determine the result of an oral examination within two working days of the date it was administered.

5. In special cases, the Examination Board may extend the term in which the result must be determined as referred to in paragraph 2 and 3 by a maximum of 10 working days. This is not possible for the interim examinations in the second period of the first year and for the interim examinations in the fourth period. The lecturer will inform students of this extension.

6. In this statement of the result of an interim examination, the student is also informed of their right to inspection, referred to in Article 4.5 as well as about the right of appeal to the Examination Appeals Board.

7. Students may submit an appeal of a decision by the Examination Board to the Examination Appeals Board within six weeks.

Article 4.5 Right of inspection and explanation

1. Students may request access to review and inspect all graded work within at least 30 working days following publication of a written interim examination result. For the results of interim examinations with 'open' questions, at their request, the student shall be granted a copy of their graded work at cost.

2. During the period referred to in paragraph 1 of this Article, any student who has taken an interim examination may review the questions and assignments of the interim examination in question, as well as the standards on which the result was based.

3. Students must be offered at least one opportunity to inspect or have their examinations explained, as referred to in paragraphs 1 and 2. If the student demonstrates that they are or were unable to attend an inspection, they may request the Examination Board to allow them another opportunity to inspect the examination, within the period referred to in paragraph 1 if possible. In all cases, the inspection must take place at least five working days before the resit of an interim examination. For examinations in the fourth period, students may view their work until one working day before the resit.

4. The examiner shall retain all written interim examinations and related papers (assignments or otherwise) that count towards the final result for a period of two years following the date when the examination was administered. Bachelor's final projects must remain available for visitations, accreditations and inspections, and shall be kept for seven years.

Article 4.6 Confirmation of examination results

1. Students are given the opportunity to take the final examination after they have provided sufficient proof of passing the components leading up to the final examination.

2. Examinations are scheduled each month.

3. The Examining Board will determine the result of the final examination, as well as the rules in relation to the manner in which the result of the examination is determined. The result of the

examination is determined by the Examining Board within five weeks following the student's request. If the examination took place in July, the results will be determined no later than 31 August. Where needed in relation to entry requirements for a subsequent programme or the acceptance of a job, a statement can be released within 5 days indicating that the student has met the requirements of the examination. This is only possible if the student has met the criteria specified in clause 1.

4. Prior to determining the result of the final examination, the Examination Board may evaluate and assess the student's knowledge with respect to one or more components or aspects of the programme, if and to the degree to which the results of the related interim examinations justify this.

Article 4.7 Awarding distinctions

The guidelines concerning distinctions can be found in the Appendix of the Distinction Regulations.

Section 5. Study performance, guidance, counselling and evaluation of education

Article 5.1 Study performance and support

1. The faculty dean is responsible for recording student results in such a way that, upon request, the Examination Board can respond by providing the student with an overview of the progress of the study programme within a reasonable time frame.
2. The Dean is responsible for providing adequate student counselling.

Article 5.2 Binding study advice regulations

1. On behalf of the dean, the First-year Study Advice Committee (Commissie Studieadvies Eerste Jaar) will advise students on continuing their degree programme. This will occur at the end of the first year, but no later than 31 August, assuming the student has been registered for the full-time Bachelor's programme as referred to in Article 7.8b of the Act.
2. The First-year Study Advice Committee shall issue positive advice to students who have completed at least 39 EC of the first-year curriculum.
3. The First-year Study Advice Committee will issue negative advice to students if they do not meet the requirements referred to in paragraph 2, unless one or more of the (personal) circumstances, as referred to in Article 5.4, are applicable.
4. In case of a binding rejection, the First-year Study Advice Committee shall formulate a plan to inform the student of negative binding study advice and provide the student with the opportunity to be heard before the binding study advice is issued.
5. In order to determine whether the required number of EC, as referred to in paragraph 2, have been obtained, EC granted for exemptions will be taken into account.
6. If students have registered for a full-time programme after 31 January, the First-year Study Advice Committee will give binding study advice at the end of their second study year. The Committee on Binding Study Advice for First-Year Students will give a positive advice to students if all components from the first year are concluded successfully.

Radboud Universiteit

7. Students who switch degree programmes after 31 January, within the Bachelor's programmes Chemistry, Molecular Life Sciences and Science will receive the binding study advice as referred to in paragraph 1 at the end of the first academic year.
8. Students who terminate their enrolment before 1 March will not receive binding study advice. If they re-enrol for the same programme in the following academic year, they will receive binding study advice at the end of the relevant academic year. The second sentence, paragraph 6 shall apply mutatis mutandis.
9. A student may appeal negative binding study advice to the Examination Appeals Board within six weeks. The appeal does not suspend the validity of the binding study advice.

Article 5.3 Preliminary recommendations

1. In anticipation of the advice referred to in Article 5.2, the First-year Study Advice Committee will issue preliminary study advice at the end of the first semester (no later than 28 February) on the basis of the results of the student to date.
2. The preliminary study advice is intended as a warning for students who have failed to make adequate progress. The students in question will be invited for an interview with the student advisor to discuss how their study results could be improved on or what other alternative programmes would suit them better.

Article 5.4 Special (personal) circumstances

1. The First Year Study Advice Committee shall take into account special (personal) circumstances in their decision on binding study advice, as stated in Article 2.1 of the Act's Implementation Decree, insofar as these circumstances have been reported to the student advisor, a student dean or another designated person by the student or by someone else on behalf of the student. The student may be asked to further substantiate or justify claims of personal circumstances.
2. Only the circumstances mentioned in or supported by the Act are eligible under special (personal) circumstances.

Article 5.5 Duration of the period of rejection

1. Students who have received negative binding study advice may not re-enrol in the relevant Bachelor's programme for a period of three years, or for any other Bachelor's programmes that the dean has determined fully or partially share the first year. In any case, this concerns the Bachelor's programmes in Chemistry, Molecular Life Sciences and Science.
2. In the event that a student registers again for the degree programme after the period referred to in paragraph 1, this registration will be considered to be the first registration for the purposes of this section.

Article 5.6 No negative binding study advice or deferral of the decision

1. On the basis of the circumstances referred to in Article 5.4 of these regulations, the dean, having heard the First Year Study Advice Committee, may decide not to attach a binding rejection to the negative study advice. Having heard the Committee on Binding Study Advice for First-Year Students, the dean may also decide to not yet attach a binding rejection to the negative study advice, on the basis of the circumstances referred to in Article 5.4.

2. If negative study advice is not yet subject to a binding rejection pursuant to paragraph 1, the First Year Study Advice Committee will issue a binding rejection, as stipulated in Article 5.2, before the end of the second study year if, by that time, the student has yet to obtain the 60 EC from the first year.

Article 5.7 Method of evaluating education

In compliance with the quality assurance system of the university as described in the Handboek Kwaliteitszorg Onderwijs Radboud Universiteit (Radboud University Quality Assurance Manual), the dean shall ensure that the education of the degree programmes is evaluated systematically.

PART III PROGRAMME-SPECIFIC PART

Section 6. Admission to the study programme and education

Article 6.1 Prior education requirements
The following students are admissible to the programme.
1. Students who have a qualification from pre-university education (VWO) in Nature and Technology profile or Mathematics B and Culture and Society, Economics and Society, Nature and Health profile; or
2. Students who have a related Bachelor's qualification from a university of applied sciences (HBO) or an equivalent qualification from a university of applied sciences.

Article 6.2 Substitute requirements for inadequate prior education
1. Deficiencies in prior education as referred to in the general section of these EER are met by sitting the test at the level of VWO final examination, to be determined in more detail, to the satisfaction of the educational institution: English and mathematics B.
2. The educational institute will appoint one or more examiners with the responsibility of administering the test(s) referred to in paragraph 1. Examiners are appointed by the Examining Board.

Article 6.3 Colloquium doctum
The entrance examination, referred to in Article 7.29 of the Act, is in relation to the following courses at the stated level: English and mathematics B.

Article 6.4 Admission of German secondary school students
For German students to be admitted to the Bachelor's programme in Computing Science, their Abitur needs to include a Grundkurs or Leistungskurs Mathematik which has received a passing grade of at least 7 (out of 15 points), at least one Science course (Biology, Physics, Computing Science, Chemistry) which has been successfully passed, and English which has been passed with at least 8 points.

Article 6.5 HBO first year
Admission on the basis of an HBO first year is only allowed if certificates at VWO level or equivalent have been obtained in the following school subjects: English and mathematics B.

Section 7. Structure and design

Article 7.1 Programme-specific learning outcomes
In addition to the general learning outcomes described in the general part of these EER, the Computing Science study programme aims to achieve the following learning outcomes:

1. System and other development: Graduates are able to describe and select methods for system development. Graduates are able to solve system development problems at a basic level ('undergraduate level', that is to say problems that require a combination of standard methods, possibly with slight changes), in particular:
   a. thinking of a suitable application for a given situation;
   b. gathering system requirements;
   c. designing an application and justifying its design;
   d. creating an application in a team and/or individually;
   e. evaluating an application based on functionality and usability;
   f. documenting the final product.
2. Research: Graduates are able to recognise and select research methods (both general and field-specific). Graduates are able to solving research questions at a basic level, in particular:
   a. identifying a relevant problem;
   b. defining and justifying the appropriate research question in relation to this problem;
   c. selecting, describing, and justifying a suitable theoretical framework;
   d. conducting the study;
   e. reporting and presenting the results;
   f. defining and justifying an (innovative) scientific solution for a problem.
3. Communication: Graduates are able to present subject-specific information at a basic level in a clear manner to colleagues (both in oral and written form) and document solutions; Graduates are able to fulfil various roles in collaboration.
4. Reflection: Graduates are able to indicate relevant areas in computing science and recognise their contributions for basic problems, in particular in relation to the following skills:
   a. reflecting on your own role as a junior scientist;
   b. participating in debates about the social implications of developments from your own field;
   c. specifying characteristic functions, roles, activities and competences of computer scientists in the professional field;
   d. making a reasoned choice for a specific follow-up education (or career path).
5. Graduates are able to execute the above-mentioned actions using knowledge from the following themes:
   a. Algorithms and theory
   b. Computer programming
   c. Computer systems and security
   d. Information and knowledge systems
   e. Mathematics
   f. Law
6. For the Cyber Security specialisation: Bachelor's graduates are also capable of the following:
   a. Graduates are able to analyse security problems and identify their causes;

b. Graduates are able to describe and apply techniques, cryptography, and principles for security.

7. Students following the Software Science specialisation will also achieve the following learning outcomes:

a. Graduates are able to develop platform-specific applications for built-in computers ('embedded systems', 'devices');

b. Graduates are able to express semantics of programming languages in appropriate formalisms;

c. Graduates are able to analyse the behaviour of programs by means of computational models and tools.

8. Students following the Data Science specialisation will also achieve the following learning outcomes:

a. Graduates are able to distinguish techniques required for extracting relevant information from very large databases;

b. Graduates are able to identify fundamental search methods, explain their differences, and select and implement them.

9. For the double bachelor of Mathematics and Computing Science: the Bachelor's

a. students can perform the actions listed in point 5 using in-depth knowledge from the disciplines of mathematics and logic;

b. can perform the actions mentioned in point 5 using in-depth computer science by choosing one of the three specialisations (Cyber Security, Software Science, Data Science).

Article 7.2 Programme language

The study programme is taught in English.

Article 7.3 Composition of the first year

Subject to the general part of these EER, the study programme consists of the following components:

1. Mandatory components (60 EC)

Course code	Course name	EC
NWI-IPC035	Artificial Intelligence	3
NWI-IBC017	Calculus and Probability Theory	3
NWI-IBC016	Combinatorics	3
NWI-IPC034	Data Analysis	3
NWI-IPC031	Imperative Programming	6

Radboud Universiteit

NWI-IPC019	Information Modelling and Databases	6
NWI-IPC002	Languages and Automata	3
NWI-IPI004	Logic and Applications	6
NWI-IPC020	Mathematical Structures	3
NWI-IPC017	Matrix Calculation	3
NWI-IPI005	Object Oriented Programming	6
NWI-IPC006	Processors	3
NWI-IPC023	Requirements Engineering and Design	3
NWI-IPC030	Research & Development: Project	3
NWI-IPC021	Security	6

Article 7.4 Composition of the second and third years of the programme

The second and third years of the study programme contain mandatory components worth 54 EC (section 1 below) and the choice between two of the three specialisations of 12 EC each (section 2 below). Additionally, there is space for a minor of 15 EC (section 3 below) and free elective space of 12 EC (section 4 below). During the core programme phase, students must also complete the portfolio, with a study load of 3 EC (section 5 below). Finally, there is a Bachelor's thesis of 12 EC (section 6 below). The total number of EC is 120.

1. Shared curriculum (54 EC)

Course code	Course name	EC
NWI-IBC027	Algorithms and Data Structures	6
NWI-IBC028	Complexity	3
NWI-IBC003	Computability	3
NWI-IBC040	Functional Programming	6
NWI-IPC025	Hacking in C	3
NWI-I00036	IT and Society	3
NWI-IBC020	Information Systems	3

Radboud Universiteit

NWI-IBC047	Law, Privacy and Identity	3
NWI-IBC048	Networks and Security	6
NWI-IBC019	Operating System Concepts	3
NWI-IBC042	Parallel Computing	3
NWI-IBI007	Research Methods	3
NWI-IBC026	Semantics and Correctness	3
NWI-IBI001	Software Engineering	6

2. Specialisation (24 EC)

Choice of one of the following specialisations:

    a.   Cyber Security

Course code	Course name	EC
NWI-IBC023	Introduction to Cryptography	6
NWI-IBC034	Operating Systems Security	3
NWI-IPC026	Web Security	3

    b.   Software Science

Course code	Course name	EC
NWI-IBC041	New Devices Lab	6
NWI-IBC025	Semantics and Rewriting	3
NWI-IBC024	Software Verification	3

    c.   Data Science

Course code	Course name	EC
NWI-IBC036	Big Data	6
NWI-IBI008	Data Mining	6

3. Minor (15 EC)

See the general part of the EER (Article 3.3, paragraphs 6 to 8).

Radboud Universiteit

4. Free electives (12 EC)

In addition to the requirements established in Article 3.3 paragraph 5, the free electives must also meet the following requirements:

A free elective is taken from the second or third year of a Radboud University degree curriculum. If the course has no demonstrable links with computing science, a course can also be selected from the first year of the relevant study programme.

5. Portfolio (3 EC)

The course NWI-IBI010: Reflection and Vocational Orientation fulfils the role of portfolio in the Computing Science study programme. The activities in this course are spread over the entire Bachelor's programme and have a study load of 1 EC per study year.

6. Bachelor's thesis (12 EC)

NWI-IBC033 Bachelor's Thesis (12 EC).

Article 7.5 Definition of final paper

In addition to Article 3.3 paragraph 10, the final paper is academic research in the field of computing science, and it takes on both a written form, as a Bachelor's thesis, and an oral form, as a final presentation.

Article 7.6 Unauthorised minors

The programme does not have an educational minor. The Computing Science minor cannot be chosen as a minor within the Computing Science study programme. The Data Science minor cannot be chosen as a minor within the Computing Science study programme if the student has followed the Data Science specialisation.

Article 7.7 Dual Bachelor's programme in Mathematics and Computing Science

Students who chose a dual Bachelor's programme in Mathematics and Computing Science have an intensified study programme with an annual study load of 75 EC; the total study load of the combined Bachelor's programme is 225 EC. The programme of the dual Bachelor's in Mathematics and Computing Science is composed of the core programme as described in Articles 7.2, 7.3.1, 7.3.5, 7.3.6 with the following particulars:

1. Every student must fulfil the requirements of the course NWI-WB071B Bachelor Portfolio (3 EC) or the course NWI-IBI010 Reflection and Vocational Orientation (3 EC).
2. Every student should include the course NWI-FFIL101 Inleiding Filosofie en Ethiek van de Wetenschap (3 EC) or the course NWI-I00036 IT and Society (3 EC) in the programme.
3. One Bachelor's thesis (12 EC) is completed at a Mathematics or Computing Science department of your choice.
4. The components of the course NWI-IBC035 Academic Writing for Computing Scientists (3 EC) will be integrated into the core computing science programme from the 2022-2023 academic year onwards. Consequently, the courses belonging to the Mathematics programme are not

part of the dual Bachelor's of Mathematics and Computing Science: NWI-NB081 Writing Skills in Academia (3 EC) and NWI-FCEM02B Schrijven over Wetenschap (3 EC).

5. Of this elective space, 12 EC must be filled with electives from one of the specialisations in Computing Science (Article 7.3.2). Of this elective space, 12 EC must be filled with electives from one of the Mathematics courses. The Mathematics programme publishes a series of electives yearly that are ideally suited to fill this elective space and match the Master's programmes in Mathematics and Computing Science.

6. The Computing Science course NWI-IPC031 Imperative Programming (6 EC) counts as an exemption for the Mathematics course NWI-NP033B Programmeren 1 (3 EC).

7. The Mathematics course NWI-WP027 Linear Algebra A (6 EC) counts as an exemption from the Computer Science course NWI-IPC017 Matrix Calculation (3 EC).

8. The Mathematics course NWI-WP029 Inleiding Wiskunde (6 EC) counts as an exemption from the Computer Science course NWI-IPC020 Mathematical Structures (3 EC).

9. The Mathematics course NWI-WB011 Discrete Wiskunde (3 EC) counts as an exemption from the Computer Science course NWI-IBC016 Combinatorics (3 EC).

10. The Mathematics courses NWI-WP025 Calculus A (6 EC) and NWI-NB004B Probability (3 EC) count as exemptions from the Computer Science course NWI-IBC017 Calculus & Probability Theory (3 EC).

11. The Mathematics course NWI-WB008C Logic (6 EC) counts as an exemption from the Computer Science course NWI-IPI004 Logic & Application (6 EC).

12. The following courses from the Mathematics core programme are part of the dual Bachelor's in Mathematics and Computing Science, including the above-mentioned exemptions 7-11:
    a. NWI-WP001B Analyse 1 (6 EC)
    b. NWI-WP026 Calculus B (6 EC)
    c. NWI-WP030 Groepentheorie (6 EC)
    d. NWI-WP028 Lineaire Algebra B (6 EC)
    e. NWI-WB001B Analyse 2 (6 EC)
    f. NWI-WB012B Ringen en Lichamen (6 EC)
    g. NWI-WB104 Gewone Differentiaal Vergelijkingen (6 EC)
    h. NWI-WB027B Topologie (6 EC)
    i. NWI-WB106 Statistiek (6 EC)
    j. NWI-WB025C Modellenpracticum (6 EC)

Section 8. Transitional provisions

Article 8.1 Transitional provisions cohort 2016-2017

Due to the transition to an English Bachelor's programme, the language of instruction of all courses has now switched to English while the content, learning outcomes and course codes have remained the same. These courses are considered to be the same course for students who started in 2016–2017. The English name is shown below.

Deviating courses will be in *italics* (see Article **8.1.3.** for the transition provisions).

This is the curriculum for students who started the study programme in the 2016-2017 academic year:

8.1.1 Composition of the first year (60 EC)

Course code	Course name	EC
NWI-IPI004	Beweren en Bewijzen (renamed Logic and Applications)	6
NWI-IPC024	*Databases (renamed Information Modeling and Databases)*	*3*
NWI-IPC025	Hacking in C	3
NWI-IPC014	*Imperatief Programmeren 1 (renamed Imperative Programming)*	*3*
NWI-IPC015	*Imperatief Programmeren 2 (renamed Imperative Programming)*	*3*
SOW-BKI121	*Introductie AI A*	*4*
NWI-IPC017	Matrixrekenen (renamed Matrix Calculation)	3
NWI-IPC019	*Modelleren (renamed Information Modeling and Databases)*	*3*
NWI-IPI005	Object Oriëntatie (renamed Object Oriented Programming)	6
NWI-IPC006	Processoren (renamed Processors)	3
NWI-IPC029	*Research & Development: Project*	*6*
NWI-IPC021	Security	6
NWI-IPC002	Talen en Automaten (renamed Languages and Automata)	3
NWI-IPC018	*Wat is informatica?*	*2*
NWI-IPC026	Web Security	3
NWI-IPC020	Wiskundige Structuren (renamed Mathematical Structures)	3

8.1.2 Composition of the second and third years of the programme

The second and third years of the study programme contain mandatory components worth 54 EC (section 1 below) and the choice between two of the three specialisations of 24 EC each (section 2 below). Additionally, there is space for a minor of 15 EC (section 3 below) and free elective space of 12 EC (section 4 below). During the core programme phase, students must also complete the portfolio, with a study load of 3 EC (section 5 below). Finally, there is a Bachelor's thesis of 12 EC (section 6 below). The total number of EC is 120.

1. Shared curriculum (54 EC)

Course code	Course name	EC
NWI-IBC035	Academisch Schrijven voor informatici (renamed Academic Writing for Computer Scientists)	3
NWI-IBC027	Algoritmen en Datastructuren (renamed Algorithms and Data Structures)	6
NWI-IBC003	Berekenbaarheid (renamed Computability)	3
NWI-IBC017	Calculus en Kansrekenen (renamed Calculus and Probability Theory)	3
NWI-IBC016	Combinatoriek (renamed Combinatorics)	3
NWI-IBC028	Complexiteit (renamed Complexity)	3
NWI-IBC029	*Functioneel Programmeren 1 (renamed Functional Programming)*	*3*
NWI-I00036	ICT en Samenleving 1 (renamed IT and Society)	3
NWI-IBC020	Informatiesystemen (renamed Information Systems)	3
NWI-IBC021	*Netwerken en Gedistribueerde Systemen (renamed Networks and Distributed Systems)*	*6*
NWI-IBI007	Onderzoeksmethoden (renamed Research Methods)	3
NWI-IBC019	Operating Systems (renamed Operating System Concepts)	3
NWI-IPC023	Requirements Engineering	3
NWI-IBC026	Semantiek en Correctheid (renamed Semantics and Correctness)	3
NWI-IBI001	Software Engineering	6

2. Specialisation (24 EC)

a. Cyber Security specialisation:

Course code	Course name	EC
NWI-IBC023	Introduction to Cryptography	6
NWI-IBC022	*Network Security*	*3*
NWI-IBC034	Operating Systems Security	3
NWI-IBC039	*Organising Cyber Security*	*6*
NWI-IBC038	*Privacy and Identity*	*3*
NWI-IBC037	*Recht voor Informatici (renamed Law for Computer Scientists)*	*3*

Radboud Universiteit

b. Computing specialisation:

Course code	Course name	EC
NWI-IBC025	Berekeningsmodellen (renamed Semantics and Rewriting)	3
NWI-IBC036	Big Data	6
NWI-IBI008	Data Mining	6
NWI-IBC030	*Functioneel Programmeren 2 (renamed Functional Programming)*	*3*
NWI-IBC031	*New Devices Lab*	*3*
NWI-IBC024	Software Verification	3

3. Minor space (15 EC)
See the general part of the EER (Article 3.3, paragraphs 6 to 8).

4. Free electives (12 EC)
In addition to the requirements established in Article 3.3 paragraph 3, the free electives must also meet the following requirements:

A free elective is taken from the second or third year of the Radboud University degree curriculum. If the course has no demonstrable links with computing science, a course can also be selected from the first year of the relevant study programme.

5. Portfolio (3 EC)
The course NWI-IBI010: Reflection and Vocational Orientation fulfils the role of portfolio in the Computing Science study programme. The activities within this course are spread over the entire Bachelor's programme and result in a study load of 1 EC per academic year.

6. Bachelor's thesis (12 EC)
NWI-IBC033 Bachelor's Thesis (12 EC).

8.1.3 Details

- *NWI-IPC018 Wat is informatica?* (2 EC) has not been offered from 2017-2018 onward. Instead, you are allowed to choose another component from the Computing Science programme that is not yet part of your examination programme.
- *NWI-IPC014 Imperatief Programmeren 1 (3 EC)* has not been offered from 2017-2018 onward. Instead, in consultation with the study advisor and lecturer, students must complete the first half of the course NWI-IPC031 Imperative Programming (6 EC).
- *NWI-IPC015 Imperatief Programmeren 2 (3 EC)* has not been offered from 2017-2018 onward. Instead, in consultation with their study advisor and lecturer, students must complete the second half of the course NWI-IPC031 Imperative Programming (6 EC).

Radboud Universiteit

- *SOW-BKI121 Introduction AI A (4 EC)* will not be offered from 2017-2018 onward. Instead, the course NWI-IPC035 Artificial Intelligence (3 EC) must be completed. In consultation with the student advisor, students will determine how to fill the remaining 1 EC.
- *NWI-IPC029 Research & Development* (6 EC) has not been offered as a 6 EC course from 2017-2018 onward. Instead, students are allowed to choose NWI-IPC030 Research & Development (3 EC) in combination with another 3 EC course from the Computing Science programme that is not yet part of their examination programme.
- *NWI-IBC029 Functioneel Programmeren 1 (3 EC)* has not been offered from 2018-2019 onward. Instead, in consultation with their study advisor and lecturer, students must complete the first half of the course NWI-IBC040 Functional Programming (6 EC).
- *NWI-IBC030 Functioneel Programmeren 2 (3 EC)* has not been offered from 2018-2019 onward. Instead, in consultation with their study advisor and lecturer, students must complete the second half of the course NWI-IBC040 Functional Programming (6 EC).
- *NWI-IBC031 New Devices Lab* (3 EC) has not been offered as a 3 EC course from 2018-2019 onward. Instead, in consultation with their study advisor and lecturer, students must complete the first half of the course NWI-IBC041 New Devices Lab (6 EC).
- *NWI-IPC019 Modelleren (3 EC)* has not been offered from 2019-2020 onward. Instead, in consultation with their study advisor and lecturer, students must complete the first half of the course NWI–IPC033 Information Modeling and Databases (6 EC).
- *NWI-IPC024 Databases (3 EC)* has not been offered from 2019-2020 onward. Instead, in consultation with their study advisor and lecturer, students must complete the second half of the course NWI–IPC033 Information Modeling and Databases (6 EC).
- *NWI-IBC021 Networks and Distributed Systems (6 EC)* has not been offered from 2020-2021 onward. Instead, in consultation with your student advisor, you must select a course worth 6 EC from the Computing Science offer that is not yet part of the examination programme. NWI-IBC048 Networks and Security (6 EC) should be considered as the first candidate.
- *NWI-IPC039 Organizing Cyber Security (6 EC)* has not been offered from 2021-2022 onward. Instead, in consultation with their study advisor, students must select a course worth 6 EC from the Computing Science offer that is not yet part of the examination programme.
- *NWI-IBC022 Network Security (3 EC)* has not been offered from 2020-2021 onward. Instead, in consultation with your student advisor, you must select a course worth 3 EC from the Computing Science offer that is not yet part of the examination programme.
- *NWI-IBC038 Privacy and Identity (3 EC)* has not been offered from 2020-2021 onward. Instead, in consultation with your student advisor, you must select a course worth 3 EC from the Computing Science offer that is not yet part of the examination programme.
- *NWI-IBC035 Academic Writing for CS (3 EC)* will be offered for the last time in 2023-2024.

Article 8.2 Transitional provisions cohort 2017-2018

Due to the transition to an English Bachelor's programme, the language of instruction of all courses has now switched to English while the content, learning outcomes and course codes have remained

the same. These courses are considered to be the same courses for students who started in 2017–2018. The English name is shown below.

Deviating courses are shown in *italics* (see Article **8.2.3.** for the transition provisions).

This is the curriculum for students who started the study programme in the 2017-2018 academic year:

8.2.1 Composition of the first year (60 EC)

Course code	Course name	EC
NWI-IPI004	Assertion and Argumentation (renamed Logic and Applications)	6
NWI-IBC017	Calculus en Kansrekenen (renamed Calculus and Probability Theory)	3
NWI-IBC016	Combinatoriek (renamed Combinatorics)	3
NWI-IPC024	*Databases (renamed Information Modeling and Databases)*	*3*
NWI-IPC025	Hacking in C	3
NWI-IPC031	Imperatief Programmeren (renamed Imperative Programming)	6
SOW-BKI125	*Introduction to Artificial Intelligence for CS*	3
NWI-IPC017	Matrixrekenen (renamed Matrix Calculation)	3
NWI-IPC019	*Modelleren (renamed Information Modeling and Databases)*	*3*
NWI-IPI005	Object Orientation (renamed Object Oriented Programming)	6
NWI-IPC006	Processoren (renamed Processors)	3
NWI-IPC023	Requirements Engineering	3
NWI-IPC030	Research & Development: Project	3
NWI-IPC021	Security	6
NWI-IPC002	Talen en Automaten (renamed Languages and Automata)	3
NWI-IPC020	Wiskundige Structuren (renamed Mathematical Structures)	3

8.2.2 Composition of the second and third years of the programme

The second and third years of the study programme contain mandatory components worth 54 EC (section 1 below) and the choice between two of the three specialisations of 24 EC each (section 2 below). Additionally, there is space for a minor of 15 EC (section 3 below) and free elective space of 12 EC (section 4 below). The student will also complete their portfolio, worth 3 EC (section 5 below). Finally, there is a Bachelor's thesis of 12 EC (section 6 below). The total number of EC is 120.

Radboud Universiteit

1. Shared curriculum (54 EC)

Course code	Course name	EC
NWI-IBC035	Academisch Schrijven voor informatici (renamed Academic Writing for Computer Scientists)	3
NWI-IBC027	Algoritmen en Datastructuren (renamed Algorithms and Data Structures)	6
NWI-IBC003	Berekenbaarheid (renamed Computability)	3
NWI-IBC028	Complexiteit (renamed Complexity)	3
NWI-IBC040	Functional Programming	6
NWI-I00036	ICT en Samenleving (renamed IT and Society)	3
NWI-IBC020	Informatiesystemen (renamed Information Systems)	3
NWI-IBC021	*Networks and Distributed Systems*	*6*
NWI-IBC019	Operating Systems (renamed Operating System Concepts)	3
NWI-IBC042	Parallel Computing	3
NWI-IBC037	*Recht voor Informatici (renamed Law for Computer Scientists)*	*3*
NWI-IBI007	Research Methods	3
NWI-IBC026	Semantiek en Correctheid (renamed Semantics and Correctness)	3
NWI-IBI001	Software Engineering	6

2. Specialisation (24 EC)

a. Cyber Security specialisation:

Course code	Course name	EC
NWI-IBC023	Introduction to Cryptography	6
NWI-IBC022	*Network Security*	*3*
NWI-IBC034	Operating Systems Security	3
NWI-IBC039	*Organising Cyber Security*	*6*
NWI-IBC038	*Privacy and Identity*	*3*
NWI-IPC026	Web Security	3

Radboud Universiteit

b. Computing specialisation:

Course code	Course name	EC
NWI-IBC025	Berekeningsmodellen (renamed Semantics and Rewriting)	3
NWI-IBC036	Big Data	6
NWI-IBI008	Data Mining	6
NWI-IBC041	New Devices Lab	6
NWI-IBC024	Software Verification	3

3. Minor space (15 EC)
See the general part of the EER (Article 3.3, paragraphs 6 to 8).

4. Free electives (12 EC)
In addition to the requirements established in Article 3.3 paragraph 3, the free electives must also meet the following requirements:

A free elective is taken from the second or third year of the Radboud University degree curriculum. If the course has no demonstrable links with computing science, a course can also be selected from the first year of the relevant study programme.

5. Portfolio (3 EC)
The course NWI-IBI010: Reflection and Vocational Orientation fulfils the role of portfolio in the Computing Science study programme. The activities within this course are spread over the entire Bachelor's programme and result in a study load of 1 EC per academic year.

6. Bachelor's thesis (12 EC)
NWI-IBC033 Bachelor's Thesis (12 EC).

8.2.3 Details

- *NWI-IPC019 Modelleren (3 EC)* has not been offered from 2019-2020 onward. Instead, in consultation with their study advisor and lecturer, students must complete the first half of the course NWI–IPC033 Information Modeling and Databases (6 EC).
- *NWI-IPC024 Databases (3 EC)* has not been offered from 2019-2020 onward. Instead, in consultation with their study advisor and lecturer, students must complete the second half of the course NWI–IPC033 Information Modeling and Databases (6 EC).
- *NWI-IBC021 Networks and Distributed Systems (6 EC)* has not been offered from 2020-2021 onward. Instead, in consultation with your student advisor, you must select a course worth 6 EC from the Computing Science offer that is not yet part of the examination programme. NWI-IBC048 Networks and Security (6 EC) should be considered as the first candidate.

Radboud Universiteit

- *NWI-IPC039 Organizing Cyber Security (6 EC)* has not been offered from 2021-2022 onward. Instead, in consultation with their study advisor, students must select a course worth 6 EC from the Computing Science offer that is not yet part of the examination programme.
- *NWI-IBC022 Network Security (3 EC)* has not been offered from 2020-2021 onward. Instead, in consultation with your student advisor, you must select a course worth 3 EC from the Computing Science offer that is not yet part of the examination programme.
- *NWI-IBC038 Privacy and Identity (3 EC)* has not been offered from 2020-2021 onward. Instead, in consultation with your student advisor, you must select a course worth 3 EC from the Computing Science offer that is not yet part of the examination programme.
- Computing Science has ceased to offer *SOW-BKI125 Introduction Artificial Intelligence for CS (3 EC)* from 2022-2023. Instead, the course NWI-IPC035 Artificial Intelligence (3 EC) must be completed.
- *NWI-IBC035 Academic Writing for CS (3 EC)* will be offered for the last time in 2023-2024.

Article 8.3 Transitional provisions for cohort 2018-2019

Article **8.3.3** stipulates the transitional provisions.

This is the curriculum for students who started the study programme in the 2018-2019 academic year (deviating courses are shown in italics):

8.3.1 Composition of the first year (60 EC)

Course code	Course name	EC
NWI-IBC017	Calculus and Probability Theory	3
NWI-IBC016	Combinatorics	3
NWI-IPC024	*Databases (renamed Information Modeling and Databases)*	*3*
NWI-IPC025	Hacking in C	3
NWI-IPC031	Imperative Programming	6
NWI-IPC019	*Information Modeling (renamed Information Modeling and Databases)*	*3*
SOW-BKI125	*Introduction Artificial Intelligence A for CS*	*3*
NWI-IPC002	Languages and Automata	3
NWI-IPI004	Logic and Applications	6
NWI-IPC020	Mathematical Structures	3
NWI-IPC017	Matrix Calculation	3
NWI-IPI005	Object Oriented Programming	6
NWI-IPC006	Processors	3
NWI-IPC023	Requirements Engineering	3

Radboud Universiteit

| NWI-IPC030 | Research & Development: Project | 3 |
| NWI-IPC021 | Security | 6 |

8.3.2 Composition of the second and third years of the programme

The second and third years of the study programme contain mandatory components worth 54 EC (section 1 below) and the choice between two specialisations of 24 EC each (section 2 below). Additionally, there is space for a minor of 15 EC (section 3 below) and free elective space of 12 EC (section 4 below). The student will also complete their portfolio, worth 3 EC (section 5 below). Finally, there is a Bachelor's thesis of 12 EC (section 6 below). The total number of EC is 120.

1. Shared curriculum (54 EC)

Course code	Course name	EC
NWI-IBC035	Academic Writing for CS	3
NWI-IBC027	Algorithms and Data Structures	6
NWI-IBC028	Complexity	3
NWI-IBC003	Computability	3
NWI-IBC040	Functional Programming	6
NWI-I00036	IT and Society	3
NWI-IBC020	Information Systems	3
NWI-IBC037	Law for Computer Scientists	3
NWI-IBC021	*Networks and Distributed Systems*	*6*
NWI-IBC019	Operating Systems (renamed Operating System Concepts)	3
NWI-IBC042	Parallel Computing	3
NWI-IBI007	Research Methods	3
NWI-IBC026	Semantics and Correctness	3
NWI-IBI001	Software Engineering	6

2. Specialisation (24 EC)

    a. Cyber Security specialisation:

Course code	Course name	EC
NWI-IBC023	Introduction to Cryptography	6
NWI-IBC022	*Network Security*	*3*

NWI-IBC034	Operating Systems Security	3
NWI-IBC039	*Organising Cyber Security*	*6*
NWI-IBC038	*Privacy and Identity*	*3*
NWI-IPC026	Web Security	3

b. Software & Data Science specialisation:

Course code	Course name	EC
NWI-IBC036	Big Data	6
NWI-IBI008	Data Mining	6
NWI-IBC041	New Devices Lab	6
NWI-IBC025	Semantics and Rewriting	3
NWI-IBC024	Software Verification	3

3. Minor space (15 EC)
See the general part of the EER (Article 3.3, paragraphs 6 to).

4. Free electives (12 EC)
In addition to the requirements established in Article 3.3 paragraph 3, the free electives must also meet the following requirements:

A free elective is taken from the second or third year of a Radboud University degree curriculum. If the course has no demonstrable links with computing science, a course can also be selected from the first year of the relevant study programme.

5. Portfolio (3 EC)
The course NWI-IBI010: Reflection and Vocational Orientation fulfils the role of portfolio in the Computing Science study programme. The activities within this course are spread over the entire Bachelor's programme and result in a study load of 1 EC per academic year.

6. Bachelor's thesis (12 EC)
NWI-IBC033 Bachelor's Thesis (12 EC).

8.3.3 Details

- *NWI-IPC019 Information Modeling (3 C)* has not been offered from 2019-2020 onward. Instead, in consultation with their study advisor and lecturer, students must complete the first half of the course NWI-IPC019 Information Modeling and Databases (6 EC).

Radboud Universiteit

- *NWI-IPC024 Databases (3 EC)* has not been offered from 2019-2020 onward. Instead, in consultation with their study advisor and lecturer, students must complete the second half of the course NWI-IPC019 Information Modeling and Databases (6 EC).
- *NWI-IBC021 Networks and Distributed Systems (6 EC)* has not been offered from 2020-2021 onward. Instead, in consultation with your student advisor, you must select a course worth 6 EC from the Computing Science offer that is not yet part of the examination programme. NWI-IBC048 Networks and Security (6 EC) should be considered as the first candidate.
- *NWI-IPC039 Organizing Cyber Security (6 EC)* has not been offered from 2021-2022 onward. Instead, in consultation with their study advisor, students must select a course worth 6 EC from the Computing Science offer that is not yet part of the examination programme.
- *NWI-IBC022 Network Security (3 EC)* has not been offered from 2020-2021 onward. Instead, in consultation with your student advisor, you must select a course worth 3 EC from the Computing Science offer that is not yet part of the examination programme.
- *NWI-IBC038 Privacy and Identity (3 EC)* has not been offered from 2020-2021 onward. Instead, in consultation with your student advisor, you must select a course worth 3 EC from the Computing Science offer that is not yet part of the examination programme.
- Computing Science has ceased to offer *SOW-BKI125 Introduction Artificial Intelligence for CS (3 EC)* from 2022-2023. Instead, the course NWI-IPC035 Artificial Intelligence (3 EC) must be completed.
- *NWI-IBC035 Academic Writing for CS (3 EC)* will be offered for the last time in 2023-2024.

Article 8.4 Transitional provisions cohort 2019-2020

Article **8.4.3** stipulates the transitional provisions.

This is the curriculum for students who started the study programme in the 2019-2020 academic year (deviating courses are shown in italics):

8.4.1 Composition of the first year (60 EC)

Course code	Course name	EC
NWI-IBC017	Calculus and Probability Theory	3
NWI-IBC016	Combinatorics	3
NWI-IPC033	Information Modelling and Databases	*6*
NWI-IPC025	Hacking in C	3
NWI-IPC031	Imperative Programming	6
SOW-BKI125	*Introduction Artificial Intelligence A for CS*	3
NWI-IPC002	Languages and Automata	3
NWI-IPI004	Logic and Applications	6
NWI-IPC020	Mathematical Structures	3

Radboud Universiteit

NWI-IPC017	Matrix Calculation	3
NWI-IPI005	Object Oriented Programming	6
NWI-IPC006	Processors	3
NWI-IPC023	Requirements Engineering	3
NWI-IPC030	Research & Development: Project	3
NWI-IPC021	Security	6

8.4.2 Composition of the second and third years of the programme

The second and third years of the study programme contain mandatory components worth 54 EC (section 1 below) and the choice between two of the three specialisations of 12 EC each (section 2 below). Additionally, there is space for a minor of 15 EC (section 3 below) and free elective space of 12 EC (section 4 below). The student will also complete their portfolio, worth 3 EC (section 5 below). Finally, there is a Bachelor's thesis of 12 EC (section 6 below). The total number of EC is 120.

1. Shared curriculum (54 EC)

Course code	Course name	EC
NWI-IBC035	Academic Writing for CS	3
NWI-IBC027	Algorithms and Data Structures	6
NWI-IBC028	Complexity	3
NWI-IBC003	Computability	3
NWI-IBC040	Functional Programming	6
NWI-I00036	IT and Society	3
NWI-IBC020	Information Systems	3
NWI-IBC047	Law, Privacy and Identity	3
NWI-IBC048	Networks and Security	6
NWI-IBC019	Operating Systems (renamed Operating System Concepts)	3
NWI-IBC042	Parallel Computing	3
NWI-IBI007	Research Methods	3
NWI-IBC026	Semantics and Correctness	3
NWI-IBI001	Software Engineering	6

Radboud Universiteit

2. Specialisation (24 EC)

a. Cyber Security specialisation:

Course code	Course name	EC
NWI-IBC023	Introduction to Cryptography	6
NWI-IBC034	Operating Systems Security	3
NWI-IPC026	Web Security	3

b. Specialisation in Software Science:

Course code	Course name	EC
NWI-IBC041	New Devices Lab	6
NWI-IBC025	Semantics and Rewriting	3
NWI-IBC024	Software Verification	3

c. Specialisation in Data Science:

Course code	Course name	EC
NWI-IBC036	Big Data	6
NWI-IBI008	Data Mining	6

3. Minor space (15 EC)

See the general part of the EER (Article 3.3, paragraphs 6 to 8).

4. Free electives (12 EC)

In addition to the requirements established in Article 3.3 paragraph 3, the free electives must also meet the following requirements:

A free elective is taken from the second or third year of the Radboud University degree curriculum. If the course has no demonstrable links with computing science, a course can also be selected from the first year of the relevant study programme.

5. Portfolio (3 EC)

The course NWI-IBI010: Reflection and Vocational Orientation fulfils the role of portfolio in the Computing Science study programme. The activities within this course are spread over the entire bachelor programme and result in a study load of 1 EC per academic year.

6. Bachelor's thesis (12 EC)

NWI-IBC033 Bachelor's Thesis (12 EC).

Radboud Universiteit

8.4.3 Details

- Computing Science has ceased to offer *SOW-BKI125 Introduction Artificial Intelligence for CS (3 EC)* from 2022-2023. Instead, the course NWI-IPC035 Artificial Intelligence (3 EC) must be completed.
- *NWI-IBC035 Academic Writing for CS (3 EC)* will be offered for the last time in 2023-2024.

Article 8.5 Transitional provisions cohort 2020-2021

Article **8.5.3** stipulates the transitional provisions.

This is the curriculum for students who started the programme in the 2020–2021 academic year (deviating courses are shown in italics):

8.5.1 Composition of the first year (60 EC)

Course code	Course name	EC
NWI-IBC017	Calculus and Probability Theory	3
NWI-IBC016	Combinatorics	3
NWI-IPC033	Information Modelling and Databases	*6*
NWI-IPC025	Hacking in C	3
NWI-IPC031	Imperative Programming	6
SOW-BKI125	*Introduction Artificial Intelligence A for CS*	3
NWI-IPC002	Languages and Automata	3
NWI-IPI004	Logic and Applications	6
NWI-IPC020	Mathematical Structures	3
NWI-IPC017	Matrix Calculation	3
NWI-IPI005	Object Oriented Programming	6
NWI-IPC006	Processors	3
NWI-IPC023	Requirements Engineering	3
NWI-IPC030	Research & Development: Project	3
NWI-IPC021	Security	6

8.5.2 Composition of the second and third years of the programme

The second and third years of the study programme contain mandatory components worth 54 EC (section 1 below) and the choice between two of the three specialisations of 12 EC each (section 2 below). Additionally, there is space for a minor of 15 EC (section 3 below) and free elective space of 12

EC (section 4 below). The student will also complete their portfolio, worth 3 EC (section 5 below). Finally, there is a Bachelor's thesis of 12 EC (section 6 below). The total number of EC is 120.

1. Shared curriculum (54 EC)

Course code	Course name	EC
NWI-IBC035	Academic Writing for CS	3
NWI-IBC027	Algorithms and Data Structures	6
NWI-IBC028	Complexity	3
NWI-IBC003	Computability	3
NWI-IBC040	Functional Programming	6
NWI-I00036	IT and Society	3
NWI-IBC020	Information Systems	3
NWI-IBC047	Law, Privacy and Identity	3
NWI-IBC048	Networks and Security	6
NWI-IBC019	Operating Systems (renamed Operating System Concepts)	3
NWI-IBC042	Parallel Computing	3
NWI-IBI007	Research Methods	3
NWI-IBC026	Semantics and Correctness	3
NWI-IBI001	Software Engineering	6

2. Specialisation (24 EC)

a. Cyber Security specialisation:

Course code	Course name	EC
NWI-IBC023	Introduction to Cryptography	6
NWI-IBC034	Operating Systems Security	3
NWI-IPC026	Web Security	

b. Specialisation in Software Science:

Course code	Course name	EC
NWI-IBC041	New Devices Lab	6
NWI-IBC025	Semantics and Rewriting	3

Radboud Universiteit

Course code	Course name	EC
NWI-IBC024	Software Verification	3

c. Specialisation in Data Science:

Course code	Course name	EC
NWI-IBC036	Big Data	6
NWI-IBI008	Data Mining	6

3. Minor space (15 EC)
See the general part of the EER (Article 3.3, paragraphs 6 to 8).

4. Free electives (12 EC)
In addition to the requirements established in Article 3.3 paragraph 3, the free electives must also meet the following requirements:

A free elective is taken from the second or third year of the Radboud University degree curriculum. If the course has no demonstrable links with computing science, a course can also be selected from the first year of the relevant study programme.

5. Portfolio (3 EC)
The course NWI-IBI010: Reflection and Vocational Orientation fulfils the role of portfolio in the Computing Science study programme. The activities within this course are spread over the entire Bachelor's programme and result in a study load of 1 EC per academic year.

6. Bachelor's thesis (12 EC)
NWI-IBC033 Bachelor's Thesis (12 EC).

8.5.3 Details
- Computing Science has ceased to offer *SOW-BKI125 Introduction Artificial Intelligence for CS (3 EC)* from 2022-2023. Instead, the course NWI-IPC035 Artificial Intelligence (3 EC) must be completed.
- *NWI-IBC035 Academic Writing for CS (3 EC)* will be offered for the last time in 2023-2024.

Article 8.6 Transitional provisions for cohort 2021-2022
Article 8.6.3. stipulates the transitional provisions.

This is the curriculum for students who started the study programme in the 2021-2022 academic year (deviating courses are shown in italics):

Radboud Universiteit

8.6.1 Composition of the first year (60 EC)

Course code	Course name	EC
NWI-IBC017	Calculus and Probability Theory	3
NWI-IBC016	Combinatorics	3
NWI-IPC033	Information Modeling and Databases	6
NWI-IPC025	Hacking in C	3
NWI-IPC031	Imperative Programming	6
SOW-BKI125	*Introduction Artificial Intelligence for CS*	3
NWI-IPC002	Languages and Automata	3
NWI-IPI004	Logic and Applications	6
NWI-IPC020	Mathematical Structures	3
NWI-IPC017	Matrix Calculation	3
NWI-IPI005	Object Oriented Programming	6
NWI-IPC006	Processors	3
NWI-IPC023	Requirements Engineering	3
NWI-IPC030	Research & Development: Project	3
NWI-IPC021	Security	6

8.6.2 Composition of the second and third years of the programme

The second and third years of the study programme contain mandatory components worth 54 EC (section 1 below) and the choice between two of the three specialisations of 12 EC each (section 2 below). Additionally, there is space for a minor of 15 EC (section 3 below) and free elective space of 12 EC (section 4 below). The student will also complete their portfolio, worth 3 EC (section 5 below). Finally, there is a Bachelor's thesis of 12 EC (section 6 below). The total number of EC is 120.

1. Shared curriculum (54 EC)

Course code	Course name	EC
NWI-IBC035	Academic Writing for CS	3
NWI-IBC027	Algorithms and Data Structures	6
NWI-IBC028	Complexity	3
NWI-IBC003	Computability	3

NWI-IBC040	Functional Programming	6
NWI-I00036	IT and Society	3
NWI-IBC020	Information Systems	3
NWI-IBC047	Law, Privacy and Identity	3
NWI-IBC048	Networks and Security	6
NWI-IBC019	Operating Systems (renamed Operating System Concepts)	3
NWI-IBC042	Parallel Computing	3
NWI-IBI007	Research Methods	3
NWI-IBC026	Semantics and Correctness	3
NWI-IBI001	Software Engineering	6

2. Specialisation (24 EC)

a. Cyber Security specialisation:

Course code	Course name	EC
NWI-IBC023	Introduction to Cryptography	6
NWI-IBC034	Operating Systems Security	3
NWI-IPC026	Web Security	3

b. Specialisation in Software Science:

Course code	Course name	EC
NWI-IBC041	New Devices Lab	6
NWI-IBC025	Semantics and Rewriting	3
NWI-IBC024	Software Verification	3

c. Specialisation in Data Science:

Course code	Course name	EC
NWI-IBC036	Big Data	6
NWI-IBI008	Data Mining	6

3. Minor space (15 EC)

See the general part of the EER (Article 3.3, paragraphs 6 to 8).

Radboud Universiteit

4. Free electives (12 EC)

In addition to the requirements established in Article 3.3 paragraph 3, the free elective must also meet the following requirement:

A free elective is taken from the second or third year of the Radboud University degree curriculum. If the course has no demonstrable links with computing science, a course can also be selected from the first year of the relevant study programme.

5. Portfolio (3 EC)

The course NWI-IBI010: Reflection and Vocational Orientation fulfils the role of portfolio in the Computing Science study programme. The activities within this course are spread over the entire Bachelor's programme and result in a study load of 1 EC per academic year.

6. Bachelor's thesis (12 EC)

NWI-IBC033 Bachelor's Thesis (12 EC).

8.6.3 Details

- Computing Science has ceased to offer *SOW-BKI125 Introduction Artificial Intelligence for CS (3 EC)* from 2022-2023. Instead, the course NWI-IPC035 Artificial Intelligence (3 EC) must be completed.
- NWI-IPC025 Hacking in C (3 EC) will be moved to the second year of study for the 2022/2023 cohort. As such, the subject has not been offered in its regular form from the 2022/2023 academic year. There is one examination opportunity in academic year 2022/2023 (Article 4.1 paragraph 4).
- *NWI-IBC035 Academic Writing for CS (3 EC)* will be offered for the last time in 2023-2024.

Article 8.7 Transitional provisions 2022-2023 cohort

Article 8.7.3 stipulates the transitional provisions.

This is the curriculum for students who started the study programme in the 2022-2023 academic year (deviating courses are shown in italics):

8.7.1 Composition of the first year (60 EC)

Course code	Course name	EC
NWI-IPC035	Artificial Intelligence	3
NWI-IBC017	Calculus and Probability Theory	3
NWI-IBC016	Combinatorics	3
NWI-IPC034	Data Analysis	3
NWI-IPC033	Information Modeling and Databases	6
NWI-IPC031	Imperative Programming	6

NWI-IPC002	Languages and Automata	3
NWI-IPI004	Logic and Applications	6
NWI-IPC020	Mathematical Structures	3
NWI-IPC017	Matrix Calculation	3
NWI-IPI005	Object Oriented Programming	6
NWI-IPC006	Processors	3
NWI-IPC023	Requirements Engineering	3
NWI-IPC030	Research & Development: Project	3
NWI-IPC021	Security	6

8.7.2 Composition of the second and third years of the programme

The second and third years of the study programme contain mandatory components worth 54 EC (section 1 below) and the choice between two of the three specialisations of 12 EC each (section 2 below). Additionally, there is space for a minor of 15 EC (section 3 below) and free elective space of 12 EC (section 4 below). The student will also complete their portfolio, worth 3 EC (section 5 below). Finally, there is a Bachelor's thesis of 12 EC (section 6 below). The total number of EC is 120.

1. Shared curriculum (54 EC)

Course code	Course name	EC
NWI-IBC027	Algorithms and Data Structures	6
NWI-IBC028	Complexity	3
NWI-IBC003	Computability	3
NWI-IBC040	Functional Programming	6
NWI-IPC025	Hacking in C	3
NWI-I00036	IT and Society	3
NWI-IBC020	Information Systems	3
NWI-IBC047	Law, Privacy and Identity	3
NWI-IBC048	Networks and Security	6
NWI-IBC019	Operating System Concepts	3
NWI-IBC042	Parallel Computing	3
NWI-IBI007	Research Methods	3

Radboud Universiteit

| NWI-IBC026 | Semantics and Correctness | 3 |
| NWI-IBI001 | Software Engineering | 6 |

2. Specialisation (24 EC)

a. Cyber Security specialisation:

Course code	Course name	EC
NWI-IBC023	Introduction to Cryptography	6
NWI-IBC034	Operating Systems Security	3
NWI-IPC026	Web Security	3

b. Specialisation in Software Science:

Course code	Course name	EC
NWI-IBC041	New Devices Lab	6
NWI-IBC025	Semantics and Rewriting	3
NWI-IBC024	Software Verification	3

c. Specialisation in Data Science:

Course code	Course name	EC
NWI-IBC036	Big Data	6
NWI-IBI008	Data Mining	6

3. Minor space (15 EC)

See the general part of the EER (Article 3.3, paragraphs 6 to 8).

4. Free electives (12 EC)

In addition to the requirements established in Article 3.3 paragraph 3, the free elective must also meet the following requirement:

A free elective is taken from the second or third year of the Radboud University degree curriculum. If the course has no demonstrable links with computing science, a course can also be selected from the first year of the relevant study programme.

Radboud Universiteit

5. Portfolio (3 EC)

The course NWI-IBI010: Reflection and Vocational Orientation fulfils the role of portfolio in the Computing Science study programme. The activities within this course are spread over the entire Bachelor's programme and result in a study load of 1 EC per academic year.

6. Bachelor's thesis (12 EC)

NWI-IBC033 Bachelor's Thesis (12 EC).

8.7.3 Details

There are no details.

Radboud Universiteit

PART IV   FINAL PROVISIONS

Section 9. Final provisions

Article 9.1 Safety net scheme and hardship clause

1. In all cases not covered fully or clearly by these regulations, the decision lies with the dean.

2. In all cases in which these regulations may result in an unreasonable or unfair situation for individual students, the Examining Board or the dean is authorised to make an exception to the provisions in these Education and Examination Regulations.

Article 9.2 Establishment and amendments

1. Contrary to the provisions in Article 7 of the Structure Regulations, these regulations are drawn up or amended by the dean after receiving advice from the programme committees and after having obtained the approval of the Joint Assembly of the faculty.

2. An amendment to these regulations has no impact on the current academic year, unless this would disproportionately damage the interest of the students.

3. Contrary to paragraph 1, the dean is authorised to drop elective components from the curriculum should the circumstances be deemed impossible for offering these courses.

Article 9.3 Entry into force

These regulations enter into force on 1 September 2023.

Article 9.4 Publication

1. The dean is responsible for publishing these regulations and any amendments thereto.

2. Interested parties may consult these regulations via the prospectus.

As established by the dean on 26-06-2023.

Radboud Universiteit

Appendix 1: Guideline for awarding distinctions

a. With due observance of the provisions set out in this Article, the Examining Board is responsible for the decision of whether a distinction shall be awarded and if so, which distinction.

b. The distinction shall be calculated on the basis of all components of the examination programme for which a mark has been awarded on a scale from 1 to 10, with the exception of extra-curricular components.

c. The number of EC of the component referred to in paragraph b shall serve as the weighting factor for the calculation of the weighted average result, unless stipulated otherwise in the programme-specific part of the EER.

d. The distinction 'cum laude' shall be awarded if the weighted average result of the final assessment of the components referred to in paragraph b is equal to or higher than 8.0.
Both the EC-weighted average of the assessments of all exam parts with a size of **less than 20 EC** and the EC-weighted average of the assessments of all exam parts with a size **equal to or more than 20 EC** must be at least 8.0 before any rounding off.

e. The distinction 'summa cum laude' shall be awarded if the weighted average result of the final assessment of the components referred to in paragraph b is at least 9.0.
Both the EC-weighted average of the assessments of all exam parts with a size of **less than 20 EC** and the EC-weighted average of the assessments of all exam parts with a size **equal to or more than 20 EC** must be at least equal to 9.0 before any rounding off.

f. A distinction shall not be awarded if more than 10% of the total study load of the examination programme (being one or more components) has been resat, unless the Examining Board decides otherwise, stating the reasons for this decision.

g. A distinction shall not be awarded if exams have been resat more than once, unless the Examining Board decides otherwise, stating the reasons for this decision.

h. A distinction is not granted if the extent of the granted exemption includes more than 50% of the programme, considering possible further restrictions to the number exemptions as stated in the EER.

i. The distinction shall not be awarded if fraud was discovered in one of the exams of the examination programme.

Radboud Universiteit

Appendix 2: Fraud Regulations

Section 1. Introductory provisions

Article 1. Objective and scope of the regulations

The Dean of the Faculty of Science at Radboud University has drawn up the following regulations with a view to preventing fraud during interim and final examinations as referred to in Article 7.12b of the Higher Education and Research Act (Wet op het Hoger onderwijs en Wetenschappelijk onderzoek (hereinafter: WHW)) that are part of the teaching and exams of the study programmes in the Faculty of Natural Sciences, Mathematics and Computer Science at Radboud University.

Article 2. Definitions

The terms that are used in these regulations – in so far as these terms are also used in the WHW or the Education and Examination Regulations of the degree programme (hereinafter: the EER) – have the same meaning that is given to these terms in the WHW and the EER.

Section 2. Definition of fraud, procedure and sanctions

Article 3. Definition of fraud

1. At Radboud University, fraud is understood to mean any act or omission by a student which, by its nature, is intended to render the proper assessment of the knowledge, understanding and skills of that student or another student fully or partially impossible.
2. Fraud in general is defined as:
    a. Fraud when taking written interim and final exams, including:
        i. Having access to unauthorised aids as referred to in the House Rules for Radboud University Examination Rooms;
        ii. Looking at the work of others or exchanging information;
        iii. Impersonating someone else or allowing someone else to impersonate oneself during an interim or final exam.
    b. Committing fraud when writing theses or other papers or completing assignments, including:
        i. Plagiarism in the sense of using or copying someone else's texts, data or ideas without complete and correct references to sources, plagiarism in the sense of copying the work of another student and presenting this as one's own work and other specifically academic forms of plagiarism;
        ii. The fabrication or falsification of research data;
        iii. The submission of a thesis or other paper that has been written by someone else.
    c. Other fraud during examination, including:
        i. Taking possession of assignments, answer keys and the like, prior to the time the exam takes place;

ii. Changing answers to questions on an examination after it has been submitted for assessment;

iii. Providing incorrect information when requesting exemption, an extension of the validity period, and other similar requests regarding an examination.

3. Any attempt at fraud will also be considered fraud in the sense of these regulations.

Article 4. Procedure for determining fraud

1. In the event that fraud is suspected, the Examining Board or the examiner will immediately inform the student. If fraud is suspected while an exam is being given, then the Examining Board or the examiner will provide the student with the opportunity to complete the exam.

2. The Examining Board or the examiner may order the student to provide the materials involved in the suspicion of fraud.

3. For the application of the provisions in paragraphs 1 and 2, 'examiner' is understood to mean the invigilator or another Radboud University staff member.

4. The Examining Board or the examiner will draw up a report of the suspected fraud. If the examiner draws up the report, they will send it to the Examining Board immediately.

5. The Examining Board will immediately make the report referred to in paragraph 4 available to the student and will begin an investigation into it. The Examining Board will provide the student with the opportunity to respond to the report in writing. The Examining Board will hear both the examiner and the student.

6. Within four weeks of making the report available to the student, the Examining Board will determine whether there is evidence of fraud. The Examining Board will inform both the student and the examiner of its decision in writing. The period of four weeks may be extended by two weeks.

Article 5. Remedial measures

If the Examining Board determines that fraud has been committed:

a. The Examining Board will declare that the relevant exam taken by the student (or students) in question is considered invalid, and;

b. It will document the identification of fraud and, if applicable, the sanctions imposed in the student's file.

Article 6. Sanctions

1. If the Examining Board determines an instance of fraud, it is able to:

a. Decide that the student is no longer able to sit for one or more exams during a period to be defined by the Examining Board, being no longer than a year;

b. Decide that no distinction will be granted on the student's diploma;

c. Make a recommendation to the Dean of the Honours Academy that the student should not be admitted to the honours programme of the university or the faculty, or recommend that the student's participation in the honours programme of the university or the faculty be terminated.

2. If the Examining Board establishes that serious fraud has been committed:

    a. the Examining Board can recommend to the Executive Board that the student's enrolment in a study programme be definitively terminated;

    b. The Executive Board may definitively terminate the student's enrolment in a study programme at the suggestion of the Examining Board.

3. As described in the Distinction Guidelines, a distinction will not be awarded if fraud has been detected in one or more of the components in the entire examination programme.

4. The sanctions as specified in this provision will be imposed on the day following the date on which the student has been informed of the decision to impose the sanctions.

Section 3. Transitional provisions

Not applicable.

Section 4. Final provisions

Article 7. Decisions and legal protection

1. Decisions on the basis of these regulations may be sent to the student digitally or by email.

2. For decisions based on these regulations, the student is permitted to appeal the relevant decision with the Examination Appeals Board (EAB) within six weeks of the decision date.

Article 8. Adoption and amendments

1. This scheme is adopted and amended by the dean.

2. If the content of these regulations relates to duties and powers of the Examining Board of the study programme, that content must be approved by that Examining Board.

Article 9. Entry into force

These regulations enter into force on 1 September 2023. On that date, these regulations will replace the preceding regulations.

Article 10. Publication

1. The dean is responsible for publishing these regulations and for appropriately disclosing any amendments thereto.

2. For the purpose of proper and clear provision of information to students and prospective students, the dean includes these regulations as an appendix to the Education and Examination Regulations (Onderwijs- en Examenreglement (EER)).

As determined by the dean on 26-06-2023 and ratified by the Examination Board on 10-07-2023.

Appendix 3: Regulations First Year Study Recommendation

Section 1. Introductory provisions

Article 1. Legal basis for the regulations

The regulations are based on article 7.8b of the Higher Education and Research Act (*Wet op het hoger onderwijs en wetenschappelijk onderzoek*), hereinafter to be referred to as 'the Act', and the guidelines adopted by the executive board dated 11 October 2022, the Guidelines First Year Study Recommendation (*Richtlijn Studieadvies eerste jaar*).

Article 2. Purpose of the regulations

These regulations include the implementation rules referred to in article 7.8b, sixth paragraph, of the Act.

Article 3. Scope of the regulations

These regulations apply for students who have not yet completed the propaedeutic phase of the bachelor's degree programme, including former students in the academic year in which they were registered for the propaedeutic phase of a bachelor's degree programme.

Article 4. Definitions

1. The terms that are used in these regulations – in so far as these terms are also used in the Act – have the same meaning that is given to these terms in the Act, unless paragraph 2 provides otherwise.
2. Without prejudice to the provisions in paragraph 1, the following terms have the following meaning in these regulations:
   a. rejection: a rejection attached to a recommendation as referred to in article 7.8b, third paragraph, of the Act, on the basis of which the registration of the student for the relevant degree programme is terminated and reregistration is not possible;
   b. propaedeutic phase: the first period in a bachelor's degree programme with a study load amounting to 60 European Credits (hereinafter: ECs);
   c. recommendation: a study recommendation as referred to in article 7.8b, third paragraph, of the Act regarding the continuation of the degree programme;
   d. study progress standard: the requirements with respect to the study results as referred to in article 7.8b, third paragraph, of the Act expressed in a number of ECs;
   e. Implementation Decree: Implementation Decree Higher Education and Research Act (*Uitvoeringsbesluit WHW (Wet op het hoger onderwijs en wetenschappelijk onderzoek) 2008*).

Section 2. Recommendation and rejection

Article 5. Making recommendations regarding the continuation of studies

1. In the propaedeutic phase of a bachelor's degree programme, the dean issues a recommendation to every student regarding the continuation of their studies. The point in time the recommendation is made is laid down in section 3.
2. The recommendation to be made by the dean may be construed as:
   a. A 'positive recommendation' as referred to in article 6, i.e. a recommendation to students to continue their degree programme, or
   b. A 'negative recommendation' as referred to in article 7, i.e. a recommendation to students not to continue their degree programme.
3. Contrary to the provisions of paragraph 1, no recommendation is issued to students who terminated their registration for the degree programme before 1 March of the first year of registration.
4. Contrary to the provisions of paragraph 1, no recommendation is issued to students who were registered for the first time for the degree programme after 31 January and who have not reregistered for the next academic year.

Article 6. Positive recommendation

The dean issues a 'positive recommendation' if the student has met the relevant study progress standard referred to in section 3.

Article 7. Negative recommendation

The dean issues a 'negative recommendation' if the student has failed to meet the relevant study progress standard referred to in section 3.

Article 8. Rejection following negative recommendation

1. The dean attaches a rejection to the 'negative recommendation' referred to in article 7, unless the student has failed to meet the study progress standard as a result of one or more personal circumstances listed and referred to in section 4.
2. The rejection referred to in paragraph 1 has a duration of three years.
3. The dean may only attach a rejection to a recommendation if:
   a. such facilities have been made available in the propaedeutic phase of the relevant degree programme that the opportunities for proper study progress have been safeguarded, and
   b. the dean has issued a warning, as referred to in article 21, to the student.
4. The rejection referred to in paragraph 1 may extend to degree programmes with the same propaedeutic year.
5. If the dean should attach a rejection to a negative recommendation, the student is not deemed suitable for the degree programme.

6. [optional, insert if applicable:] The provisions in this article do not apply for part-time students.

Article 9. Postponed decision on recommendation

1. If no opinion can be given on the student's unsuitability for the degree programme because of personal circumstances that have occurred in the first year of study, the dean postpones issuing the recommendation.
2. In exceptional circumstances, the dean may decide, stating reasons, to postpone the recommendation once again.

Section 3. Study progress standard

Article 10. Study progress standard upon first registration before 31 January

Students who have registered for the first time for the propaedeutic phase of a bachelor's degree programme receive the recommendation at the end of the same academic year, at the latest on 31 August of that academic year. The following study progress standards apply:

a. for a full-time bachelor's degree programme: 39 ECs.

Article 11. Study progress standard upon first registration after 31 January

Students who have registered for the first time in the previous academic year after 31 January for the propaedeutic phase of a bachelor's degree programme receive the recommendation at the end of the next academic year, at the latest on 31 August of that academic year. The following study progress standards apply:

a. for a full-time bachelor's degree programme: 60 ECs.

Article 12. Study progress standard upon reregistration after discontinuation of studies

Students who have not received, with due consideration of article 5, paragraph 3 or 4, a recommendation in a previous first year of registration and who reregister for the degree programme within a period of three years, receive the recommendation at the end of the academic year in which the student has reregistered for the degree programme, at the latest on 31 August of that academic year. The following study progress standards apply:

a.   for a full-time bachelor's degree programme: 60 ECs.

Article 13. Study progress standard after postponed decision on recommendation

Students for who the decision concerning the recommendation, with due consideration for article 9, has been postponed receive the recommendation at the end of the next following academic year, at the latest on 31 August of that academic year. The following study progress standards apply:

a. for a full-time bachelor's degree programme: 60 ECs.

Radboud Universiteit

Article 14. Decision whether the standard has been complied with

In order to determine whether the study progress standards referred to in this section have been complied with, only ECs are are taken into account that have been obtained for components in the examination programme of the propaedeutic phase of the relevant bachelor's degree programme, including ECs that have been granted for exemptions for the relevant components.

Article 15. Dual degree programmes

If required, the dean may depart from the provisions in this section with regard to students who have registered for an approved dual degree programme.

Section 4. Provisions for study progress; personal circumstances

Article 16. Facilities for study progress

The degree programme offers facilities to safeguard the opportunities for proper study progress. For these facilities, we refer you to the student advisor who is available to every student.

Article 17. Personal Circumstances - Implementation Decree

When deciding on attaching a rejection to a negative recommendation, the dean takes into consideration personal circumstances as referred to in article 2.1 of the Implementation Decree (*Uitvoeringsbesluit*).

Article 18. Personal Circumstances - Radboud University

In addition to the provision of article 17, the dean, when issuing the recommendation, also takes into consideration the following personal circumstances as personal circumstances:
   a. the student's taking part in sports at top level;
   b. the student's being a top talent in arts or culture.

Article 19. Prompt notice of personal circumstances

In the event a student cannot (possibly) meet the study progress standard as a result of any circumstances referred to in this section, the student must inform the study advisor as soon as possible. Upon prompt notice of personal circumstances that are prejudicial to study progress, the institute may take measures to safeguard the study progress as much as possible.

Article 20. Burden of proof personal circumstances

The student may be requested to substantiate the claim of personal circumstances in more detail or to make a plausible case for these circumstances.

Section 5. Procedure and decision making

Radboud Universiteit

Article 21. Preliminary recommendation and interview

As soon as possible after the end of the first semester in which the student is registered for a degree programme, the dean issues a preliminary recommendation on the basis of the results registered at that moment. The preliminary recommendation is meant as a warning for students who have failed to make adequate study progress. The relevant students are advised to make an appointment with the study advisor to discuss in which way their performance could be improved or which other degree programme could be an alternative.

Article 22. Information by study advisor in writing

1. If the student has failed to meet the applicable study progress standard, the dean obtains information, prior to the decision on the recommendation, from the study advisor with respect to the student's personal circumstances, as referred to in section 4. The study advisor may then advise the dean on the recommendation to be issued.
2. The study advisor supplies the information referred to in the previous paragraph in writing. The student receives a copy of it.

Article 23. Intended recommendation

1. In view of the information provided by the study advisor referred to in article 22, the dean drafts an intended decision on the recommendation.
2. The dean communicates the intention referred to in paragraph 1 to the student and offers the student the opportunity to be heard before the decision is made.

Article 24. Hearing the student

1. In view of the provisions of article 23, the student is heard, upon request, by the dean.
2. In the event the student does not make use of the opportunity to be heard, the dean automatically converts the intended decision referred to in article 23 in an identical decision on the recommendation.
3. In the event the student makes use of the opportunity to be heard, the dean decides on the recommendation with due observance of what was discussed during the hearing.