

Rules and Guidelines of the Faculty of Science, Mathematics, and Computer Science Examination Board, Radboud University Nijmegen 2020-2021

General section

1. Scope

These Rules and Guidelines are applicable to all examinations in the Bachelor's and Master's programmes of the Faculty of Science, Mathematics, and Computer Science (hereinafter referred to as the Faculty):

- a. Life Sciences: Bachelor's in Biology, Master's in Biology, Master's in Medical Biology.
- b. Computing and Information Sciences: Bachelor's in Computing Science, Master's in Computing Science, Master's in Information Science.
- c. Molecular Sciences: Bachelor's in Molecular Life Sciences, Master's in Molecular Life Sciences, Bachelor's in Chemistry, Master's in Chemistry, Bachelor's in Science, Master's in Science, Master's in Molecular Sciences.
- d. Mathematics and Physics and Astronomy: Bachelor's in Mathematics, Master's in Mathematics, Bachelor's in Physics and Astronomy, Master's in Physics and Astronomy.

These Rules and Guidelines have been drawn up by the Examination Boards concerned, in accordance with the Education and Examination Regulation (EER) established by the Faculty Board. The concepts mentioned in these Rules and Guidelines have the same meaning as described in the EER.

2. Composition and daily activities of the Examination Board

- a. In accordance with the Faculty's regulations, each Examination Board consists of a minimum of three (3) and a maximum of ten (10) members, and the majority of those members is part of the current academic staff that provides the education in the respective programme(s).
- b. The Examination Board appoints one of its members as Vice-Chair.
- c. The Vice-Chair replaces the Chair if necessary.
- d. The Examination Board makes decisions based on the majority of the votes. If the vote results in a draw, the Chair makes the final decision.
- e. The Examination Board makes agreements with regards to signing documents on behalf of the Examination Board and may delegate specific authorisations to non-members.

3. Exams

- a. In accordance with the WHW (Higher education and Research Act), a student who is enrolled in a Bachelor's programme cannot participate in exams in one of the Master's programmes. Students who have incurred a delay in completing their Bachelor's programme due to the COVID-19 pandemic will be able to make use of the Master's so-called "zachte knip" (flexible admission) procedure in 2020-2021. See also

[\(https://www.ru.nl/science/education/about-our-education/education-faculty-science/studystart-faculty-science/have-you-suffered-recent-study-delay-0/\)](https://www.ru.nl/science/education/about-our-education/education-faculty-science/studystart-faculty-science/have-you-suffered-recent-study-delay-0/).

- b. The Examination Board can grant a student permission to take an exam on a different date than the originally scheduled date. The Examination Board will only decide based on a motivated request from the student if there is a positive advice from the lecturer concerned and the student advisor of the relevant programme.

Below are the **criteria** for allowing an additional examination opportunity:

1. The examination is the final course in the examinations before completing the programme (Bachelor's or Master's) **AND** waiting for the next regular examination opportunity results in a study delay of more than 3 months **AND** the student has participated in at least one of the last two regular examinations. *Permission for an additional examination opportunity for a final course can be granted only once.*
2. The student falls under the top athletics regulations of RU. The student must provide proof of this.
3. Special personal/medical circumstances. In this case, advice is always sought from the student advisor.

4. Appointment of examiners

1. The Examination Board will appoint examiners:
Examiners can be:
 - Members of the Radboud University and/or Radboud university medical center **and**
 - a. who have a permanent position (professors, associate professors, assistant professors); or have a tenure track position or
 - b. who are employed as a lecturer at the Faculty of Science and in possession of a University Teaching Qualification certificate **or**
 - c. who are a professor by special appointment who, in the opinion of the Examination Board, is qualified **or**
 - d. an externally funded researcher in possession of a University Teaching Qualification certificate or who, in the opinion of the Examination Board, is qualified.
2. The appointment of an examiner is valid for a period of one (1) year and will be extended automatically unless the Examination Board decides otherwise.

5. Exam content and grading

- a. At the beginning of each component, the examiner informs the students of the learning objectives of that particular component. An examination tests the learning objectives in proportion to their importance.
- b. The requirements for each (interim) examination will be communicated to the students well in advance.
- c. In the case of a written (interim) exam, the sources that students are allowed to use during the exam will be shared with the student well in advance.

- d. If an (interim) exam contains several components, the way in which the final result is derived from these results is communicated with the students by the examiner at the beginning of every component.
- e. If the final grade of a component is decided by a final exam (or multiple interim exams) as well as other partial grades (such as lab courses, seminars, presentations, etc.), the final grade cannot be sufficient when the final exam (or the average of multiple interim exams) receives a grade of less than a 5.0.
- f. If the final grade of a final project/paper is determined by different partial grades (e.g. practical work, report, presentation, etc.), each of these partial grades must be at least a 5.0.
- g. If both the assessors of a final project/paper give a partial grade or final grade that differs more than a whole point from the other, and this difference is maintained after discussion among the relevant parties, the Examination Board will appoint a third assessor who determines the final binding grade.
- h. The final grade of a final project/paper must be signed by an examiner acknowledged by the Examination Board.
- i. The administrative date for a written exam is the date of the exam. For a lab course, this is the date on which all data and reports have to be submitted.

6. The course of events during exams

- a. See the House Rules for Examination Rooms
- b. The OWC assigns invigilators for such exams, who ensure that the exam runs smoothly and in accordance with the Faculty of Science invigilator protocol. The invigilators should be aware of the sources the students are allowed to use. They should also be aware of the way a student, who has the permission of the Examination Board to take the written exam in an adjusted form, can take this exam.
- c. If invigilators are assigned during an examination, the head of the OWC is responsible for their work during the examination.
- d. The examinee provides enough paper and writing tools when taking a written exam. The examiner can decide to provide paper themselves; if so, the examinee is then obliged to use it.
- e. The examinee is obliged to follow the instructions of the Examination Board or examiner that were published before the start of the exam, as well as instructions provided immediately before, during, and immediately after the exam.
- f. If the examinee does not comply with one or more instructions as mentioned in the previous paragraph, they may be excluded from further participation in the exam or its components by the Examination Board or the examiner for disruption. As a consequence of that exclusion, there will be no result recorded for that exam and the examinee will be excluded from taking the exam or components of that exam again in the same academic year. Before the Examination Board takes the decision to exclude the examinee, they grant the candidate the opportunity to be heard.
- g. If an examinee is caught committing fraud during the examination, the rules listed in the EER and the Rules & Guidelines appendices apply.

7. Exemptions

- a. A request for exemption from an exam or component is assessed by the Examination Board.
- b. The Examination Board makes their decision one (1) month after receiving the request. The person making the request will immediately be notified of the decision.

8. Exams

- a. A student passes the Bachelor's exam if all the components of the Bachelor's programme are given a passing grade (at least 6 or "satisfactory", "sufficient", and "good").
- b. In all other cases, the examinee is denied from the Bachelor's exam.
- c. A student has passed the Master's examination if all the components of the Master's programme are marked with a passing grade (at least 6 or "satisfactory", "sufficient", and "good").
- d. In all other cases, the examinee is denied from the Master's exam.

9. Distinctions

- a. The Examination Board can add the distinction "cum laude" to the result of an exam if the weighted average based on ECs of the results of all components is at least 8.0.
- b. The Examination Board can add the distinction "summa cum laude" to the result of an exam if the weighted average based on ECs of the results of all the components is at least 9.0.
- c. A distinction for the Bachelor's exam is determined on the basis of the assessments of components of the Bachelor's programme with the exception of extracurricular components, and the one for the Master's exam on the basis of the assessments of the components of the Master's programme with the exception of extracurricular components.
- d. A distinction is solely determined on the basis of the nominal number of EC that is required for the exam (curricular components).
- e. 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.
- f. A distinction is not granted if more than 10% of the programme had to be resat (18 EC of the Bachelor's programme; 12 EC of the Master's programme).
- g. A distinction is not granted if a student has been caught committing fraud during their programme and this has been recorded in the student file.

When granting the distinction "cum laude" the following criteria are used:

- h. The weighted average based on EC of the assessments of all exam components with a weight of less than 20 EC has to be at least 8.0 before the grade is rounded off.
- i. The weighted average based on EC of the assessments of all exam components with a weight of 20 EC or more has to be at least 8.0 before the grade is rounded off.

When granting the distinction "summa cum laude" the following criteria are used:

- j. The weighted average based on EC of the assessments of all exam components with a weight of less than 20 EC has to be at least 9.0 before the grade is rounded off.
- k. The weighted average based on EC of the assessments of all exam components with a weight of 20 EC or more has to be at least 9.0 before the grade is rounded off.

10. Final Projects/Papers

Internships and theses in both the Bachelor's and Master's programme are individually assessed on the basis of the individually submitted papers. If students make a request before starting with the internship/thesis the Examination Board can, in exceptional cases, give permission for a joint internship/thesis assignment. In this request, the following components must be described:

- a. the value and necessity of the joint assignment
- b. a description of the individual part of the assignments and the responsibilities per student
- c. a description of the joint partial assignments and the responsibilities of the students.
- d. a clear description of the ways in which individual and joint aspects of the internship/thesis assignment will be assessed
- e. Under all circumstances, each student must submit a report/thesis separately.

11. Switch within the first year of the Bachelor's programme

All the students who switch to one of the programmes in the same educational institute during the first year of the programme will have the results of the components that belong to this second first-year programme on their diploma as grades (unless otherwise assessed) under the condition that the student does not continue with the first programme.

12. Dual Bachelor's programme

A student who has been granted access to a second academic year after completing the first-year programme in accordance with the EER, and who chooses to complete two Bachelor's programmes, will have the first-year subjects listed as exemptions (VR) on the diploma supplement of the programme they enrolled in last, based on the completed first year of the first programme.

13. Pre-Master's

To assess if a student met the requirements of a Pre-Master, the same rules apply as for an exam.

14. Changes and Unforeseen Circumstances

- a. No changes in these rules will take place that apply to the current academic year unless this does not reasonably damage the interests of the students.
- b. In cases in which the current Rules and Guidelines do not accommodate, or there is doubt concerning its interpretation, the Examination Board makes a decision.
- c. The Examination Board is qualified to make an exception regarding the EER and the Rules and Guidelines in individual cases and in a well-founded manner.

15. Entry into force

These Regulations and Guidelines enter into force on 1 September 2020.

Appendix 1

Rules and guidelines of the Computing Science and Information Sciences Examination Board 2020- 2021 supplementary to the faculty rules and guidelines.

1. Language Master's thesis and Master's graduation speech

The code of conduct for foreign languages mandates that your Master's thesis is written in English and that you speak in English during your graduation speech. In case of strong reasoning, the Examination Board is able to provide permission to deviate from this rule.

2. Homework guideline

When assessing course files, the Examination Board deems it acceptable if no exam matrix or assessment protocol is given for homework/bonus rules that meet the following requirements:

- The maximum weight for the homework is 10% of the exam grade.
- In the exam regulations (exam matrix, assessment protocol, etc.) these components do not need to be specified.

It is not necessary to give students a resit opportunity for homework.

(For exams/labs/presentations/papers it is expected that an exam matrix and assessment protocol are included in the course dossier)

Explanation of the homework guideline:

The exam of a course (summative testing, "testing for a grade") normally consists of a written exam and/or paper, project report, presentation, etc.

Formative testing (interim checks, practising, receiving feedback) is an important aspect of education. This formative testing often consists of homework exercises, in which aspects are practised that are part of the exam. In order to stimulate the participation of students, lecturers sometimes include these results in the exam grade, which gives a summative character to what was intended as formative testing.

Consideration:

The Education Board feels it is detrimental if these kinds of results (for convenience indicated as "homework") are given too much weight in the examination, for two reasons:

- The improper merging of practising (and learning from mistakes) and being assessed has to be avoided;
- The circumstances in which homework is completed (individually, in groups, and with or without the help of computers) are hard to control.

3. Expansion of the Master's internship

The student in the Master's programme is allowed to expand the internship with a maximum of 15 EC after approval of the Examination Board. Substantiated argumentation with the approval of the supervising lecturer must be submitted to the Examination Board.

4. Pre-Master's

The Examination Board will declare that a student has graduated from the Pre-Master's programme if every course has been passed with a sufficient grade. Deviating from this, one insufficient result (if this result is a grade not lower than a 5.0) is allowed.

5. Dual Bachelor's in Mathematics and Computing Science

1. Students who chose a double 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 Bachelor's programme is 225 EC.
2. The compulsory mathematics course NWI-WB093 Complex Analysis (6 EC) can be replaced by the physics course NWI-NB019C Complex Functions (3 EC).
3. Every student must meet the requirements of the course NWI-WP017B Mathematics Portfolio Year 1 (0 EC). Every student must meet the requirements of course NWI-WB071 Bachelor's in Mathematics Portfolio (3 EC) or the course NWI-IBI010 Reflection and Vocational Orientation (3 EC).
4. Every student must include the course NWI-FFIL100 Introduction to Philosophy and Ethics (3 EC) or the course NWI-I00036 ICT and Society (3 EC) in their programme.
5. One Bachelor's internship (12 CEC) can be done at a Mathematics or Computing Science department of your choice.
6. The elective space in the dual Bachelor's programme (225 EC) is 21 EC.
7. Of this elective space, 12 EC must be filled with electives from one of the specialisations in Computing Science. For the specialisation Software and Data Science, the courses are NWI-IBI008 Data Mining (6 EC), and the choice between a) NWI-IBC024 Software Verification (3 EC) and NWI-IBC025 Semantics and Rewriting (3 EC), or b) NWI-IBC036 Big Data (6 EC). For the specialisation Cyber Security, the courses are NWI-IPC026 Web Security (3 EC), NWI-IBC034 Operating Systems Security (3 EC), and NWI-IBC023 Introduction to Cryptography (6 EC).
8. The remaining elective space (9 EC) must be filled with 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.

Exemption from Computer Science courses on the basis of Mathematics courses

- 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).
- The Mathematics course NWI-WP029 Introduction to Mathematics (6 EC) counts as an exemption from the Computer Science course NWI-IPC020

Mathematical Structures (3 EC).

- The Mathematics course NWI-WB011C Discrete Mathematics (6 EC) counts as an exemption from the Computer Science course NWI-IBC016 Combinatorics (3 EC).
- 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).
- The Mathematics course NWI-WB008C Logic (6 EC) counts as an exemption from the Computer Science course NWI-IPI004 Logic & Application (6 EC).

Appendix 2

Rules and guidelines of the Mathematics, Physics, and Astronomy Examination Board 2020-2021 supplementary to the faculty rules and guidelines.

Art. 1 Dual Bachelor's in Mathematics and Computer Science

1. Students who chose a double 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 Bachelor's programme is 225 EC.
2. The compulsory Mathematics course NWI-WB093 Complex Analysis (6 EC) can be replaced by the Physics course NWI-NB019C Complex Functions (3 EC).
3. Every student must meet the requirements of the course NWI-WP017B Mathematics Portfolio Year 1 (0 EC). Every student must meet the requirements of the course NWI-WB071 Bachelor's in Mathematics Portfolio (3 EC) or the course NWI-IBI010 Reflection and Vocational Orientation (3 EC).
4. Every student must include the course NWI-FFIL100 Introduction to Philosophy and Ethics (3 EC) or the course NWI-I00036 ICT and Society (3 EC) in their course programme.
5. One Bachelor internship (12 CEC) can be fulfilled at a Mathematics or Computing Science department of choice.
6. The elective space in the dual Bachelor's programme (225 EC) is 21 EC.
7. Of this elective space, 12 EC must be filled with electives from one of the specialisations in computing science. For the specialisation Software and Data Science the courses are NWI-IBI008 Data Mining (6 EC), and the choice between
 - a) NWI-IBC024 Software Verification (3 EC) and NWI-IBC025 Semantics and Rewriting (3 EC), or b) NWI-IBC036 Big Data (6 EC). For the specialisation Cyber Security, the courses are NWI-IPC026 Web Security (3 EC), NWI-IBC034 Operating Systems Security (3 EC), and NWI-IBC023 Introduction to Cryptography (6 EC).
8. The remaining elective space (9 EC) must be filled with 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.

Exemption from Computer Science courses on the basis of Mathematics courses

- 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).
- The Mathematics course NWI-WP029 Introduction to Mathematics (6 EC) counts as an exemption from the Computer Science course NWI-IPC020 Mathematical Structures (3 EC).
- The Mathematics course NWI-WB011C Discrete Mathematics (6 EC) counts as an exemption from the Computer Science course NWI-IBC016 Combinatorics (3 EC).
- 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).

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

Art. 2. Dual Bachelor's in Mathematics and Physics and Astronomy

1. Students who chose a dual Bachelor's programme in Mathematics and Physics and Astronomy have an intensified study programme with an annual study load of 75 EC; the total study load of the Bachelor's programme is 225 EC.
2. Every student must meet the requirements of the course NWI-NB075 Bachelor's in Physics and Astronomy Portfolio (3 EC) or the course NWI-WB071 Bachelor's in Mathematics Portfolio (3 EC). In the first academic year, the course NWI-WP017B Mathematics Portfolio Year 1 or NWI-NP034B Physics Portfolio Year 1 is compulsory.
3. The compulsory Physics course NWI-NB008D Laboratory Course Physics 2b (6 EC) can be substituted by the Physics course NWI-NB065B Laboratory Course Physics 2c (3 EC).
4. The compulsory Mathematics course NWI-WB093 Complex Analysis (6 EC) can be replaced by the Physics course NWI-NB019C Complex Functions (3 EC).
5. The compulsory Mathematics course NWI-WB008C Logic becomes a recommended elective. ^a
6. One Bachelor internship (12 CEC) can be fulfilled at a Mathematics or Physics department of choice.
7. The elective space of the dual Bachelor's programme (225 EC) is 33 EC.
8. The programmes yearly publish a series of electives that are ideally suited to fill this elective space and match the Master's specialisations of the Master's programmes in Mathematics and Physics and Astronomy.

Footnote to 5.:

- ^a The dual Bachelor's programme also provides the required broad orientation of the mathematical field of study, the insight in the social function of the disciplines, and acquiring the necessary skills in different disciplines (EER Bachelor's programme in Mathematics, art. 7.1.1 and 7.1.2).