

Bachelor Chemistry

This EER consists of various parts:

PART I: General provisions

Part II: Provisions applicable to all Master's programmes

Part III: Programme specific provisions

Appendices (2x)

Part I and II have a combined table of contents

Part III has a separate table of contents

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PART I General provisions

Section 1 – General provisions

Article 1.1 – Applicability of these regulations

1. These Education and Examination Regulations (EER) apply to the Bachelor's programmes of the Faculty of Science and outline the applicable procedures, rights and obligations concerning teaching, interim examinations and final examinations. Part II of these EER lists the provisions applicable to all Bachelor's programmes of the Faculty of Science; Part III specifies the provisions applicable to each individual degree programme.
2. The present regulations apply to all students enrolled in a Faculty of Science degree programme for the first time in the academic year 2016-2017.
3. The faculty offers the following Bachelor's programmes:
 - a. Biology
 - b. Computing Science
 - c. Molecular Life Sciences
 - d. Physics and Astronomy
 - e. Chemistry
 - f. Science
 - g. Mathematics
4. Paragraph 4: The degree programmes have a study load of 180 EC: the propedeutic phase corresponds with the first academic year and has a study load of 60 EC; the core (post-propedeutic) programme has a study load of 120 EC.
5. Paragraph 5: All degree programmes are offered exclusively as full-time programmes.

Article 1.2 – Definitions

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 paragraph 1, the terms below will be understood to have the following meaning:

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- a. Fraud: any deliberate act or omission by a student that makes forming an accurate opinion of his or her knowledge, understanding, and skills partially or entirely impossible.
- b. Degree programme: the Bachelor's programme referred to in Article 7.3a, paragraph 1 of the Act;
- c. Component: an educational unit as referred to in Article 7.3, paragraphs 2 and 3 of the Act;
- d. Student: anyone enrolled at Radboud University for participation in a degree programme and/or in the courses or final examinations of a programme;
- e. First year: the foundational year (propedeutic phase) of the programme, as referred to in Article 7.8 of the Act;
- f. Practical exercise: a practical exercise as referred to in Art. 7.13 paragraph 2 under D of the Act, in one of the following forms:
 - i. Writing a thesis
 - ii. Writing a paper or experimental design
 - iii. Carrying out a design or research assignment
 - iv. Completing a literature review
 - v. Writing a computer program
 - vi. Completing an internship
 - vii. Participating in fieldwork or going on an excursion
 - viii. Conducting tests or experiments
 - ix. Participating in an additional educational activity to acquire certain skills;
- g. Interim examination: an examination testing the knowledge, understanding and skills of the student in relation to a certain unit of study, as well as the assessment of this examination, which is administered by at least one examiner designated by the Examination Board;
- h. Final examination: an examination of the student's academic achievements, in which the Examination Board determines whether or not all examinations that are part of the Bachelor's (propedeutic and core phase) programme have been successfully completed. The Examination Board may determine that this review requires a test of the candidate's knowledge, understanding and skills by the Examination Board itself and an assessment of the results of that test (in accordance with Article 7.10 of the Act);
- i. Examination Board: the examination committee of a degree programme, established in accordance with Article 7.12 of the Act. Also see the Radboud University Structural Regulations;
- j. Examiner: the person designated by the Examination Board to administer the interim examination, in accordance with Article 7.12 of the Act;
- k. EC: European Credits, i.e. the study load unit in accordance with the European Credit Transfer System. One EC is equal to 28 hours of study;
- l. Work day: Mondays to Fridays, with the exception of official holidays and any other days marked by Radboud University as collective holidays;

- m. Awarding of the degree certificate: the formal confirmation that all the examination requirements have been met;
- n. Study guide: the guide for a particular degree programme of the Faculty of Science, containing specific information for the Bachelor's programme;
- o. The university: Radboud University;
- p. The faculty: The Faculty of Science;
- q. Minor: a cohesive selection of components;
- r. Free elective: a freely selected, academic, assessable component.

Part II Provisions applicable to all Bachelor's programmes

Section 2 Access to the degree programmes and education

Article 2.1 Prior education requirements

To be admitted to the programme, the student must meet the statutory (additional) prior education requirements set out by the Act.

Article 2.1a Replacement requirements for insufficient prior education

The student who has a pre-university education 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 the condition that comparable requirements have been met in terms of content and subject to further assessment. The assessment procedure and the requirements are outlined in the programme-specific part of these regulations.

Section 3 Structure and design

Article 3.1 Final examination, degree and distinctions

1. The first year of the degree programme, being the propedeutic phase, concludes with the propedeutic examination. All Bachelor's programmes conclude with a Bachelor's examination.
2. A student who has passed the examination of the Bachelor's degree programme will be awarded the Bachelor of Science (BSc) degree.
3. The degree referred to in the second paragraph, is exclusively awarded if the student has earned at least half of their EC at this university.
4. The examination board can award a distinction to a student who has successfully passed the degree programme examination. The rules for awarding a distinction are to be found in Article 4.7 of this EER.

Article 3.2 General learning outcomes

1. The degree programme has the following learning outcomes for students:
 - a. Acquire knowledge, skills and insights in the relevant field of study;
 - b. Develop academic competences;
 - c. Preparation for future career.

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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 programme comprises the total of the components as described in the programme-specific part of these regulations and is aimed at the realisation of the objectives described in Article 3.2.1.
2. The Bachelor's programmes comprise a component with a study load of 3 EC with the purpose of reflection on study performance and planning, as well as boosting the development of academic skills.
3. The (post-propedeutic) core programme comprises a free elective component with a minimum study load of 6 EC.
4.
 - a. Students may add a minor to their Bachelor's programme. They may opt for an Education Minor of 30 EC or a different minor with a study load between 15 and 30 EC.
 - b. The following minors are offered at the faculty level:
 - i. Physical Organic Chemistry (18 EC); consisting of the courses

Course code	Course name	EC
NWI-MOL101	Essentials of Organic Chemistry	6
NWI-MOL057	Magnetic Resonance	6
NWI-MOL071	<i>Kristalgroei</i>	3
NWI-MOL094	Physical Organic Chemistry	3

- ii. Bio-organic Chemistry (18 EC); consisting of the courses

Course code	Course name	EC
NWI-MOL101	Essentials of Organic Chemistry	6
NWI-MOL053	Pharmacochemistry	6
NWI-MOL078	Nanobiotechnology	6

- iii. Sustainable Chemistry (15 EC); consisting of the courses

Course code	Course name	EC
NWI-MOL101	Essentials of Organic Chemistry	6
NWI-BM021B	Geographic Information Systems	6
NWI-MOL091	Green Chemistry	3

- iv. *Informatica* (15 EC); consisting of the courses

Course code	Course name	EC
<i>Choice of:</i> NWI-IPC014	<i>Choice of:</i> <i>Imperatief Programmeren 1</i>	3
Along with NWI-IPC015	Along with <i>Imperatief Programmeren 2</i>	+ 3

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Or simply: NWI-IBC027	Or simply: <i>Algoritmen & Datastructuren</i>	6
NWI-IPC027	Security	6
<i>Choice of:</i> NWI-IPC002	<i>Choice of:</i> <i>Talen & Automaten</i>	3
Or NWI-IBC019	Or Operating Systems	3

v. *Informatiekunde* (15 EC); consisting of the courses

Course code	Course name	EC
NWI-IPC019	<i>Modelleren</i>	3
NWI-IPC021	Security	6
NWI-IPC023	Requirements Engineering	3
<i>Choice of:</i> NWI-IBC020	<i>Choice of:</i> <i>Informatiesystemen</i>	3
Or NWI-IBC019	Or Operating Systems	3

- c. 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.
- d. The student can put together his/her own minor with a study load between 15 and 30 EC, which must be approved by the Examination Board.
- The core 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.
 - Finally, the core programme includes an individual final aptitude test (Bachelor's thesis) with a study load between 9 and 15 EC. For a student who is admitted to the Faculty of Science Radboud Honours Academy, this can be expanded through an internship conducted either abroad or within the Netherlands, (study load T.B.D.). The internship must fit in with the curriculum of the Radboud Honours Academy.
 - The composition of the Bachelor's programme compiled by the student must be presented for approval to the Examination Board no later than six months before the expected examination date. The Examination Board will decide whether to grant approval within a month of receiving the submitted programme.

Article 3.4 Sequence of education and interim examinations

- For admission to the core programme, students must have successfully completed the first year (propedeutic) examination for the relevant degree programme.
- Contrary to the first paragraph, students who do not meet the requirements of the propedeutic examination after the first year may already take interim examinations in the second academic year (core programme) if they have earned a minimum of 39 ec during the first year.
- At the request of the student, the Examination Board may allow him/her to participate in certain components and take certain interim examinations in the core programme if they have earned fewer than 39 ec. This requires the student to create a plan in consultation with the student

- advisor. On the basis of this plan, the Examination Board will decide on the period of validity of the granted access.
4. The student may not start the final aptitude test (Bachelor's thesis) before the first year examination has been successfully completed and a minimum of 60 EC of the core programme have been obtained.
 5. 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 – Type of interim examination

1. Each component of the degree programme will be concluded by an interim examination. Interim examinations may comprise more than one modular interim examination and are administered in the following forms:
 - a. Written (paper and/or digitally)
 - b. Oral
 - c. Presentation
 - d. Practical and related report
2. At the request of the student, the Examination Board may allow an interim examination to be administered in a form other than stated above.
3. Students with disabilities are given the opportunity to take interim examinations in a manner appropriately suited to their disability. The Examination Board, if necessary, shall 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 faculty's Education and Examination Administration no later than two weeks before the interim examination.
4. For oral examinations, no more than one person is tested at the same time, unless decided otherwise by the Examination Board.
5. An oral interim examination is not public, unless the Examination Board has deemed otherwise for exceptional cases.
6. Oral interim examinations are administered in the presence of a second examiner or an observer appointed by the Examination Board. In special cases, the Examination Board may require that the oral interim examination be recorded.
7. For each component, the examiner with the approval of the Examination Board will announce the form in which the interim examinations will be administered prior to the commencement of the academic year. In special cases, the examiner may change the form of examination later on in the academic year. This may only be done before the start of the component in question and must be approved by the Examination Board.

Article 3.6 Exemptions

1. At the request of a student and having heard the examiner involved, the Examination Board may exempt the student, either partially or fully, from an interim examination if the student:
 - a. Has passed a course examination in a relevant subject at a university or institute of higher vocational education (HBO)

- b. Demonstrates that he/she has adequate knowledge and skills regarding the component in question as a result of relevant work experience or professional experience
2. Exemptions as referred to in paragraph 1 cannot be granted for the Bachelor's thesis.

Article 3.7 Term of validity of successfully completed interim examinations

1. The term of validity of successfully completed interim examinations is unlimited.
2. Contrary to the provisions in the first paragraph, the Examination Board may set supplementary or replacement requirements for a component if it judges that the requirements pertaining to that interim examination deviate considerably from those that were in effect at the time the interim examination was taken.

Section 4 Examinations

Article 4.1 Frequency of interim examinations

1. Students are given at least two opportunities per year to take interim examinations, with the exception of practical courses or the practical portion of components, which can be taken at least once per academic year. Interim examinations are administered immediately upon completion of the component, during a to be determined period t.
2. Contrary to the stipulation 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 the previous academic year.
3. If a certain component is not given in a particular year, the opportunity to take the corresponding examination will be offered once in that year, as long as the interim examination is administered in written or oral form.

Article 4.2 Registration for interim examinations

1. Students who register through OSIRIS for courses in the programme are also automatically registered for the first interim examination opportunity in the relevant academic year. If a student does not wish to participate in the interim examination, he/she must de-register for the examination via Osiris up to 1 day before the examination date. After the abovementioned time period, the student can only personally deregister directly with the lecturer up until the starting time of the interim examination. This is logged in the examination administration as "ND" ("*niet deelgenomen*" - did not participate).
If the student fails to deregister in due time, non-appearance will be considered a used opportunity to sit the interim examination, unless the Examination Board decides otherwise in exceptional cases.
2. The student must register for an interim examination in accordance with the applicable guidelines and instructions, no later than seven days before the interim examination date.
3. If a resit for an interim examination has been taken two or more times, additional requirements are set for subsequent resits.
4. The "Regulations for examination participation" in these EER are applicable in these cases.

Article 4.3 Confirmation of interim examination results

1. The result of an interim examination is determined by an examiner in the form of a grade on a scale of 1 to 10 (with 10 as the highest possible grade), consisting exclusively of whole number or half numbers. The grade 5.5, however, 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 this educational component has been successfully completed. In addition to results in the form of a grade, the assessments "satisfactory" and "not satisfactory" may also be awarded.
2. If a student re-sits an interim examination, the most recent mark will determine the final result.

Article 4.4 Publication of results

1. The examiner shall, on the date that an oral interim examination is administered, determine the result and give the student a written statement of this.
2. The examiner shall determine the result of a written interim examination within 10 work days of the date it was administered for interim examinations in the propedeutic phase and within 15 working days for interim examinations in the core phase. The precondition applies that there must be at least 10 work days between the date of the publication of the result in Osiris and the date of the resit. The examiner will provide the faculty administration office with the necessary details for them to award the document of proof regarding the student's result. This result must be made available to the student within two working days after the result has been determined.
3. Contrary to the provisions in paragraph 2, the examiner shall determine the result of a written interim examination in the fourth quarter of the propedeutic phase within 5 working days of the date it was administered. Also contrary to the provisions in paragraph 2, there should be a period of at least 9 work days between the date of announcing the result of an interim examination in Osiris and the date of a resit of an interim examination from the fourth quarter of the core phase. This result must be made available to the student within one work day after the result has been determined.
4. In special cases, the Examination Board may extend the term in which the result must be determined as referred to in paragraph 2 by a maximum of 10 work days.
5. Contrary to the provisions in paragraphs 2 and 3, the faculty board may establish supplementary regulations for the components that are part of the first year (*propedeuse*) for the periods within which the results of interim examinations of those components must be determined, in particular with respect to the provisions in Section 5.
6. In instances in which an interim examination is administered in a form other than oral or written, the Examination Board shall determine prior to the administration of the examination how and when the student shall be issued a statement of the result. This term shall not be longer than 30 days after the interim examination was administered.
7. On this statement of the result of an interim examination, the student is informed of his/her right of inspection, referred to in Article 4.5, as well as the right to appeal to the Examination Appeals Board.

8. A student 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 right of cognisance

1. Within at least 30 days following publication of a written interim examination result, the student may request access to review and inspect all graded work. For the results of interim examinations with "open" questions, at the student's request he/she 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. The Examination Board may determine that the inspection or review shall take place at a particular location and provide at least two different time periods. If the student demonstrates that he/she is unable to attend the inspection or review as a result of force majeure, then another option shall be offered, if possible within the period stated in paragraph 1 of this Article.
4. In all cases, provided this has been requested by the student in a timely fashion, the inspection must take place a minimum of five working days before the resit of an interim examination.
5. The Examination Board 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 programme reports and theses must remain available for visitations, accreditations, and inspections and shall be kept for seven years.

Article 4.6 Confirmation of the result of the final examination

1. The student is given the opportunity to take the final examination after he/she has provided sufficient proof that he/she has passed the components leading up to the final examination.
2. The Examination 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.
3. 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 that the results of the related interim examinations justify this.

Article 4.7 Awarding distinctions

1. With due observance of the provisions set out in this Article, the Examination Board is responsible for the decision of whether a distinction shall be awarded and if so, which distinction.
2. The distinctions
 - a. "Cum laude" shall be awarded if the weighted average result of the final assessment of the components referred to in paragraph 3 is equal to or higher than 8.0, or
 - b. "Summa cum laude" shall be awarded if the weighted average result of the final assessment of the components referred to in paragraph 3 is equal to or higher than 9.0.

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3. 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 of 1 to 10, with the exception of extra-curricular components.
4. The number of EC of the component referred to in paragraph 3 shall serve as the weighting factor for the calculation of the weighted average result, unless provided otherwise in the programme-specific part of these regulations.
5. The distinction shall not be awarded if more than 10 per cent of the total study load of the examinations for the degree programme (being one or more components) has been re-sat or if interim examinations have been re-sat more than once, unless the Examination Board decides otherwise, stating the reasons for this decision.
6. The distinction shall not be awarded if fraud was discovered in one of the examinations of the degree programme.

Article 4.8 – Fraud and plagiarism

1. If an examiner or supervisor suspects or finds proof of fraud, plagiarism or other irregularities during the interim examination or while assessing the interim examination or written assignment, the examiner or supervisor shall inform, in writing, both the relevant programme Examination Board and the student concerned. The student will be permitted to complete the interim examination.
2. The Examination Board will decide as quickly as possible (but at least within 20 working days) whether fraud or plagiarism has indeed been committed and what possible actions will be taken. The Examination Board shall not make a decision in this regard until after hearing the student in question, or at least providing the student with the opportunity to be heard. A written report of this hearing shall be made.
3. In the event of fraud or plagiarism, a note of this will be made in the student's file.
4. In case of fraud during an interim examination, the student shall be excluded from further participation in the interim examination and no grade shall be awarded. This means the student will have used up one of his/her interim examination opportunities.
5. In accordance with Article 7.12b paragraph 2 of the Act, the Examination Board may, in case of fraud or plagiarism, bar the student from sitting for one or more interim examinations and/or final examinations at the institute for a maximum period of 12 months.
6. In the event of serious fraud and at the suggestion of the Examination Board, the Executive Board may recommend that the student's enrolment for the degree programme be terminated.
7. In cases of plagiarism, the relevant Examination Board may, in addition to the measures listed under paragraph 5 of this Article, require the student to complete a new assignment on a subject to be determined by the lecturer responsible for that course.

Section 5 Study performance, support and advice

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 within a reasonable timeframe.

2. The dean is responsible for providing adequate student counselling.

Article 5.2 – Binding study advice regulations

1. On behalf of the dean, the Committee on Binding Study Advice for First-Year Students (*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, that the student has been registered for the propedeutic phase of the full-time Bachelor's degree programme as referred to in article 7.8b of the Act.
2. The propedeutic (foundation year) phase constitutes the curriculum of the first year of the Bachelor's programmes and consists of a study load of 60 EC.
3. The Committee on Binding Study Advice for First-Year Students shall issue a positive recommendation to students who have completed at least 39 EC of the first-year curriculum, as referred to in paragraph 2.
4. The Committee on Binding Study Advice for First-Year Students will advise students negatively on continuing their degree programme if a student does not meet the requirements referred to in paragraph 3, unless one or more of the personal circumstances as referred to in Article 5.4 of these regulations should play a role.
5. In case of a binding rejection, the Committee on Binding Study Advice for First-Year Students shall formulate a plan to inform the student of a binding negative study advice and provide the student with the opportunity to be heard before the binding study advice is issued.
6. In determining whether the required credits referred to in paragraph 3 have been achieved, exempted credits shall not be counted. Should more than 18 EC in exemptions have been granted, certain core programme components may be counted toward meeting the requirements referred to in paragraph 3.
7. The Committee on Binding Study Advice for First-Year Students will give binding advice on continuing their degree programme to students registered for a full-time programme after 31 January at the end of their second study year. The Committee on Binding Study Advice for First-Year Students will then advise students positively on continuing their degree programme if the propedeutic phase has been successfully concluded.
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. The dean will be entitled to lay down additional rules for students who have registered for two degree programmes recognised as a dual degree programme under or pursuant to these Education and Examination Regulations.
9. 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 shall receive the binding study advice at the end of the second year. The provisions of the second sentence of paragraph 7 shall apply accordingly.
10. A student may appeal the binding negative study advice with the Examination Appeals Board within six weeks. The appeal does not suspend the validity of the binding study advice.

Article 5.3 – Preliminary recommendation

1. In anticipation of the advice referred to in Article 5.2, the Committee on Binding Study Advice for First-Year Students will make preliminary recommendations at the end of the first semester (no later than 28 February) to students on continuing their degree programmes on the basis of their results to date.
2. The preliminary recommendation is especially meant 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 study results could be improved or what other alternative programmes would be better suited to them.

Article 5.4 – Personal circumstances

1. The Committee on Binding Study Advice for First-Year Students shall take into account personal circumstances in their binding study advice decision, 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, either by the student or by someone else on the student's behalf. The student may be asked to further substantiate or justify personal circumstance claims.
2. Only personal circumstances mentioned in or supported by the Act are eligible.

Article 5.5 – Duration of the period of rejection

1. Students who have received a binding negative 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 phase. In any case, this concerns the Bachelor's programmes in Chemistry, Molecular Life Sciences, and Science.
2. In the event a student should register again for the degree programme after the period referred to in paragraph 1, this registration will be considered as a first registration under this paragraph and the relevant provisions will apply in full.

Article 5.6 – No binding negative 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 Committee on Binding Study Advice for First-Year Students may decide not to attach binding consequences to the negative advice to students on continuing the degree programme. Having heard the Committee on Binding Study Advice for First-Year Students, the dean may also decide, on the basis of the circumstances referred to, to not yet attach binding consequences to the negative advice.
2. If binding advice not to continue the degree programme is not given pursuant to paragraph 1, the Committee on Binding Study Advice for First-Year Students will give their binding advice as referred to in Article 5.2 before the end of the second study year if, at that time, the student has not yet obtained the 60 EC of the propedeutic year.

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Section 6 Access to the degree programme and education

Article 6.1 Replacement requirements for insufficient prior education

1. Deficiencies in prior education as referred to in the general provisions of these EER are compensated through the successful completion, as deemed by the Examination Board, of still to be determined tests at the level of the pre-university education (VWO) final examination: Chemistry, Physics and Mathematics B.
2. The Examination Board will appoint one or more examiners charged with the task of administering the test(s) referred to in paragraph 1.

Article 6.2 Equivalent prior education

The diploma from prior education obtained abroad or through an international or European baccalaureate is assessed by the Examination Board on the presence and level of the subjects Physics, Chemistry and Mathematics B.

Article 6.3 – Admission based on HBO first year diploma

Students with a higher vocational education (HBO) first year (propedeuticphase) diploma and with demonstrable knowledge at the pre-university education (VWO) level for the subjects English, Biology, Chemistry, Physics and Mathematics B may be admitted to the Bachelor's programme in Chemistry with a statement from the Examination Board.

Article 6.4 Colloquium Doctum

The admission assessment, referred to in Article 7.29 of the Act, is in relation to the following courses at the stated level: pre-university education (VWO) final examination level in Biology, English, Chemistry, Physics 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 provisions of these EER, the Chemistry degree programme aims to achieve the following learning outcomes:

The Bachelor's graduate:

1. has sufficient insight into the various chemistry specialisations that build on the Bachelor's phase to make a responsible choice of further education;
2. has a thorough theoretical and practical foundational knowledge of chemistry and the ancillary subjects physics, mathematics, computing science and biology that is sufficient to successfully follow a Master's degree programme in the field of chemistry;
3. is familiar with scientific research skills and design methods in the area of chemistry and has passed an aptitude test in this field;
4. is aware of the possibilities in the labour market in the event of concluding their studies with a Bachelor's diploma;
5. is familiar with the safety, environmental and sustainability aspects of chemistry;
6. is aware of the role of chemistry in society and of the international nature of chemistry;
7. has acquired an independent, scientific and critical work method and attitude; is able to report orally and in writing on related scientific results and applications; can work in a team; can search for and process information; has mastered ICT skills that reflect the chosen specialisation; is experienced with project-based work.

Article 7.2 Programme study load

The Bachelor's programme comprises a propedeutic phase, which covers the initial academic year and has a study load of 60 EC, and a core (post-propedeutic) phase of 120 EC.

Article 7.3 Programme type

The programme is only offered full-time.

Article 7.4 Programme language

1. Education in the Chemistry degree programme is taught in English; the interim examinations and examinations are administered in English. In academic years 2016-2017 and 2017-2018, part of the education given in the core programme will be in Dutch. Electives from different degree programmes may be in Dutch. The interim examinations and the examinations of those courses

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will be administered in Dutch. For education given in English, the university "Code of Conduct for Foreign Language Education" applies (see appendix).

2. A sufficient command of the Dutch language is required to participate in courses and examinations taught or given 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.

The Examination Board may in certain cases assess whether a student has sufficient proficiency in Dutch.

3. A sufficient command of the English language is required to participate in the programme and possibly to sit for examinations in English. This requirement is met if the student:
 - a. has a diploma for pre-university education (VWO); or
 - b. has a diploma for pre-university education obtained at an English-language institution in the Netherlands or abroad; or
 - c. has a diploma for pre-university education obtained at a German secondary education institution, with English as *Grundkurs*; or
 - d. has a Bachelor's diploma for a university of applied sciences (HBO); or
 - e. has a Bachelor's diploma earned at a Dutch university; or
 - f. has achieved the following scores on one of the following English language tests:
 - i. The TOEFL with a score of 575 or higher for the paper version;
 - ii. The TOEFL with a score of 232 or higher for the computer version;
 - iii. The TOEFL with a score of 90 or higher for the Internet version;
 - iv. The IELTS with a score of 6.5 or higher;
 - v. The Cambridge CAE or CPE with a score of C or higher.

In certain cases, the Examination Board may assess whether a student has sufficient proficiency in English.

Article 7.5 Composition of the propedeutic phase

Subject to the general provisions of these EER, the degree programme comprises the following components:

1. **Compulsory courses (60 EC)**

Course code	Course name	EC
NWI-MOL001	Chemical Analysis	3
NWI-MOL079	Structure of Atoms and Molecules	3
NWI-MOL008	Biomolecules	3
NWI-MOL003 or NWI-NP001B	Mechanics 1A <i>Mechanica 1B</i> *	3
NWI-MOL004	Mathematics 1	3
NWI-MOL010	Biochemistry project	6
NWI-MOL013	Biochemical Processes	3
NWI-MOL080	Molecular Structure	3

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NWI-MOL009	Mathematics 2	3
NWI-MOL005	Reactions and Kinetics project	6
NWI-MOL007	Reactions and Kinetics	3
NWI-MOL017	Thermodynamics	3
NWI-MOL015	Mathematics 3	3
NWI-MOL014	Electricity & Magnetism 1A	3
NWI-MOL020	Environmental Chemistry and Sustainability	3
NWI-MOL019	Spectroscopic Techniques	3
NWI-MOL018	Thermodynamics Project	6

* In Dutch.

Article 7.6 Composition of the core programme (post-propedeutic phase)

1. Compulsory courses (63 or 66 EC)

Course code	Course name	EC
NWI-MOL012	Mechanics 2A	3
NWI-MOL016	Linear Algebra	3
NWI-MOL027	DNA Technology	3
NWI-MOL028	Statistics	3
NWI-MOL032	Crystal Structure	3
NWI-MOL033	Programming in Matlab	3
NWI-MOL040	Thermodynamics 2	3
NWI-MOL041	Quantum Mechanics 1	3
NWI-MOL042	Fourier Analysis	3
NWI-MOL044	Inorganic Chemistry Lab	3
NWI-MOL045	Microscopic Techniques	3
NWI-MOL046	Quantum Mechanics 2	3
NWI-MOL102	Inorganic Chemistry	3
NWI-MOL047	Synthesis of Biomolecules	3
NWI-MOL056	Chemical Bonding	3
NWI-FFIL100	Introduction Philosophy and Ethics of Science *	3
NWI-FCEM02B	Introduction course CEM: writing skills*	3
NWI-MOL086	Academic skills**	3
NWI-MOL025	Electricity and Magnetism 2A	3
+ NWI-MOL050	Condensed matter	3
or NWI-BB017C	Biochemistry & Molecular Biology II	6
NWI-MOL049A	Organic Chemistry lab	6
or NWI-MOL034	Condensed Matter lab	3

* Article 3.3, paragraph 5

** Article 3.3, paragraph 2 The course Academic skills (*Academische vorming*) will start in the first year.

2. Elective courses (compulsory elective space) (36-39 EC)

A: If no minor is selected, the differentiation phase will consist of:

- i) A minimum of 18 EC of courses from list BS1 (Appendix) with Chemistry Bachelor's priority courses.
- ii) A minimum of 21 EC of courses from list BS2 (Appendix) with other Chemistry electives.

B. If a minor programme is selected as referred to in Article 3.3 paragraph 4, the differentiation phase will consist of:

- i) A minor programme with a study load of 15 to 30 EC as referred to in article 1.3 paragraphs 5 and 6
- ii) Depending on the study load of the minor: 6 to 24 EC of courses from list BS1 (Appendix) with priority courses and from list BS2 (Appendix) with other electives, such that a minimum of half minus 3 EC from list BS1 is chosen and a maximum of half plus 3 EC from list BS2.

A maximum of one Huygens lecture (3 EC) may be included in the compulsory free elective space.

3. Free electives (6 EC)

Courses in the free elective space must be testable and at the academic level.

4. Bachelor's internship (12 EC)

A final aptitude test (Bachelor's internship) with a study load of 12 EC;

Every year, the degree programme publishes a list of pre-approved internship departments.

7.7 Minors that are not permitted

Minors from Article 3.3, paragraph 4 that may not be included are:

- (i) Physical Organic Chemistry
- (ii) Bio-organic Chemistry
- (iii) Sustainable Chemistry

APPENDIX

List BS1 (Bachelor's in Chemistry priority courses)

The specific courses that will be offered during a particular year and those that will be taught in English will be announced at the start of the academic year in question.

NWI-MOL029: *Bioinformatica* (3 EC)
NWI-MOL034: *Practicum Gecondenseerde Materie* (3 EC)
NWI-MOL035: *Chemie en Samenleving* (3 EC)
NWI-MOL043: Bioinorganic Chemistry (3 EC)
NWI-MOL048A: Organic Chemistry lab (6 EC)
NWI-MOL049A: Chemical Biology project (6 EC)
NWI-MOL050: Condensed Matter (3 EC)
NWI-MOL053: Pharmacochimistry (6 EC)
NWI-MOL054: Toxicology (6 EC)
NWI-MOL057: Magnetic Resonance (6 EC)
NWI-MOL059: *Statistische Thermodynamica* (6 EC)
NWI-MOL064: Atomic and Molecular Spectroscopy (3 EC)
NWI-MOL065: Chemometrics (6 EC)
NWI-MOL071: *Kristalgroei* (3 EC)
NWI-MOL082: Single Molecules Studies (3 EC)
NWI-MOL087A: *Practicum Synthese (organisch)* (3 EC)
NWI-MOL087B: *Practicum Synthese (anorganisch)* (3 EC)
NWI-MOL091: Green Chemistry (3 EC)
NWI-MOL093: Stereoselective Synthesis (3 EC)
NWI-MOL094: Physical Organic Chemistry (3 EC)
NWI-MOL095: Organic Chemistry (6 EC)
NWI-MOL096: Metalorganic Chemistry (3 EC)
NWI-MOL097: Chemical Neuroscience (3 EC)
NWI-MOL106: *Toegepaste Quantumchemie* (3 EC)
NWI-MOL109: Magnetic Resonance for Chemistry (3 EC)
NWI-BB017C: *Biochemie-Moleculaire Biologie II* (6 EC)

List BS2 (other Chemistry electives)

The specific courses that will be offered during a particular year and which courses will be taught in English will be announced at the start of the academic year in question.

NWI-BB019B: Immunology (6 EC)
NWI-BB021B: *Neurobiofysica* (6 EC)
NWI-BB023B: *Celbiologie van Dieren* (6 EC)
NWI-BB025B: *Medische Pathologie* (6 EC)
NWI-BB034B: Neurobiology (6 EC)
NWI-BB039C: Neurodevelopment (6 EC)
NWI-BB048B: *Endocrinologie* (6 EC)
NWI-BB063B: Neuroscience (6 EC)
NWI-BB064B: Functional Genomics (6 EC)
NWI-BB080B: *Neurofysiologie van Cognitie en Gedrag* (6 EC)
NWI-BB081B: Cognitive Neuroimaging (6 EC)

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NWI-BB084B: Molecular Principles of Development (6 EC)
NWI-BB085B: *Hersenen en Gedrag* (6 EC)
NWI-BB086: Genomics for Health and Environment (12 EC)
NWI-FC0042B: Debating Science: an Introduction to Science in Society (3 EC)
NWI-GCSE007: *Beleid, Ondernemerschap en Innovatie* (3 EC)
NWI-MB021B: Geographic Information Systems (GIS) (6 EC)
NWI-MB024C: *Humane en Ecologische risicobeoordeling* (HERA) (6 EC)
NWI-MOL031: *Biochemie in de Levende Cel* (3 EC)
NWI-MOL036: *Algemene Fysiologie* (3 EC)
NWI-MOL038: *Genetica* (3 EC)
NWI-MOL039: *Fysisch Practicum* (6 EC)
NWI-MOL051: *Project Spectroscopie* (3 EC)
NWI-MOL055: Molecular Basis of Diseases (6 EC)
NWI-MOL066: *Structuur, Functie en Bioinformatica* (6 EC)
NWI-MOL073: *Verg. Genoomanalyse* (3 EC)
NWI-MOL078: *Nanobiotechnologie* (6 EC)
NWI-MOL104: Medical Biotechnology (6 EC)
NWI-MOL107: RNA Structure and Function (6 EC)
NWI-NB001B: *Analytische Mechanica* (3 EC)
NWI-NB006B: *Trillingen en Golven* (3 EC)
NWI-NB027B: *Neurofysica 1* (3 EC)
NWI-NB036B: *Psychofysica 1* (3 EC)
NWI-NB046C: *Chemie en Fysica v/d Atmosfeer* (3 EC)
NWI-NB029B: *Elektronica* (3 EC)
NWI-NB044B: *Nanofysica* (3 EC)
NWI-NB067B: *Vaste Stoffysica* (3 EC)
NWI-NB071B: *Structuur der Materie: Atoom- en Molecuulfysica* (3 EC)
NWI-NB072B: *Structuur der Materie: Vaste stoffysica* (3 EC)
NWI-NP007B: *Speciale Relativiteitstheorie* (3 EC)
NWI-WP021: *Groepentheorie 1* (3 EC)
NWI-WB060B: *Inleiding Grafentheorie* (3 EC)

Other Faculty of Science Bachelor's courses at the core programme (post-propedeutic) level, provided these are approved by the Examination Board.

Part IV – Transitional and final provisions
Established August 29, 2016

Part IV – Transitional and final provisions

Section 9 Transitional provisions

Not applicable in 2016-2017.

Section 10 Final provisions

Article 10.1 Safety net scheme and hardship clause

1. In any situations which are not fully or clearly covered by these regulations, the decision lies with the dean.
2. Any situations which these regulations may result in unreasonable hardship for individual students, the Examination Board or the dean is authorised to make an exception to the provisions in the Education and Examination Regulations.

Article 10.2 Confirmation and amendments

1. Notwithstanding 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 approval from the faculties' general assembly.
2. An amendment to these regulations cannot enter into force in the current academic year, unless the situation has the potential to make it extremely difficult for the student to participate in the programme.
3. **Article 10.3 Entry into force**

These regulations shall enter into force on 1 September 2016.

Article 10.4 Publication

1. The dean is responsible for publishing these regulations and any amendments thereto.
2. Interested parties may consult these regulations on the website: www.radboudnet.nl or www.student.ru.nl

As established by the dean on August 29, 2016

Regulations for examination participation

These regulations are applicable to all students at the Faculty of Science and are in regards to the central registration and deregistration for examinations and the application procedure for additional examination opportunities.

1. A student has two examination opportunities for each component.
2. By registering for a course in Osiris, you will be automatically registered for the first examination opportunity.
3. Contrary to point 2, students are required to register for all other examinations through Osiris. This is possible up to 7 days before the examination.
4. Students can deregister for the examination in Osiris up to 1 day before the examination date.
5. After the time period mentioned in point 4, students can only personally deregister directly with the lecturer up until the starting time of the examination.
6. If a student does not sit the examination without having deregistered through one of options stipulated above, they lose an examination opportunity (1 of 2). This is logged in the examination administration as “ND” (“niet deelgenomen” - did not participate).
7. If the student can demonstrate that they were unable to take the examination or deregister in a timely fashion due to mitigating circumstances, the Examination Board may decide to disregard the original registration for the examination.
8. If the examination has not been passed after the second attempt, the student must get permission from the lecturer to take part in the examination each additional time he/she wishes to take it. This permission is requested via an online form: <http://www.radboudnet.nl> or www.student.ru.nl. The student must hand in the form signed by the lecturer to the Student Service Desk. The Student Service Desk handles the examination registrations. The student can check their registration in Osiris.
9. These regulations are in effect from 1 September 2016.

Code of Conduct for foreign language use, as referred to in Article 7.2 (c) of the Higher Education and Research Act (the Act)

(Agreed upon by the Executive Board)

At Radboud University the following code of conduct applies:

Article 1

At Radboud University Nijmegen, allowance for administering examinations and interim examinations in a language other than Dutch will be considered if the specific nature, design or quality of the education or nationality of the students necessitate this.

Article 2

A decision to use a foreign language will be made by the dean of the faculty in question, after having received advice from the programme committee. The dean will observe the following principles:

- the need to use a different language other than Dutch must be clear;
- examinations and interim examinations for English-speaking degree programmes are administered in English; interim examinations of courses taught in English are administered in English, unless the examination committee of the degree programme in question decides otherwise;
- education in a foreign language must meet the same quality standards as education in Dutch.

Article 3

The decision by the dean is included in the education and examination regulations of the degree programme.

Article 4

The dean of the faculty will report his/her decision to the Executive Board.