Teaching and Examination Regulations

Faculty of Science
Master's programme in Science, Business & Innovation

Academic year 2023-2024

A. Faculty section
B1. Programme specific section – general provisions
B2. Programme specific section – content of programme

Index

SECTION A: FACULTY SECTION 4

1. GENERAL PROVISIONS 4

Article 1.1 Applicability of the Regulations 4
Article 1.2 Definitions 4

2. STUDY PROGRAMME STRUCTURE 5

Article 2.1 Structure of academic year and units of education 5

3. ASSESSMENT AND EXAMINATION 6

Article 3.1 Signing up for education and examinations 6
Article 3.2 Type of examination 6
Article 3.3 Oral examinations 6
Article 3.4 Determining and announcing results 6
Article 3.5 Examination opportunities 6
Article 3.6 Marks 7
Article 3.7 Exemption 8
Article 3.8 Validity period for results 8
Article 3.9 Right of inspection and post-examination discussion 8

4. ACADEMIC STUDENT COUNSELLING AND STUDY PROGRESS 9

Article 4.1 Administration of study progress and academic student counselling 9
Article 4.2 Facilities for students with a disability 9

5. HARDSHIP CLAUSE 9

Article 5.1 Hardship clause 10

SECTION B1: PROGRAMME SPECIFIC – GENERAL PROVISIONS 11

6. GENERAL PROGRAMME INFORMATION AND CHARACTERISTICS 11

Article 6.1 Study programme information 11
Article 6.2 Teaching formats used and modes of assessment 11
Article 6.3 Academic student counselling 11

7. FURTHER ADMISSION REQUIREMENTS 11

Article 7.1 Intake date(s) 11
Article 7.2 Admission requirements 11
Article 7.3 Selection criteria 12
Article 7.4 Pre-Master's programme 12

8. EXAMINATIONS AND RESULTS 13

Article 8.1 Sequence of examinations 13
Article 8.2 Validity period for results 13

SECTION B2: PROGRAMME SPECIFIC – CONTENT OF PROGRAMME 14

9. PROGRAMME OBJECTIVES, TRACKS/SPECIALISATIONS, EXIT QUALIFICATIONS AND LANGUAGE 14

Article 9.1 Workload 14
Article 9.2 Tracks and/or specialisations 14
Article 9.3 Programme objective 14
Article 9.4 Exit qualifications 14
Article 9.5 Language of instruction 15

10. CURRICULUM STRUCTURE 15

Article 10.1 Composition of the programme 15

ARTICLE 10.2 COMPULSORY UNITS OF EDUCATION 16
ARTICLE 10.3 ELECTIVE UNITS OF EDUCATION 16
ARTICLE 10.4 PRACTICAL EXERCISE 17
ARTICLE 10.5 PARTICIPATION IN PRACTICAL TRAINING AND TUTORIALS 17

11. EVALUATION AND TRANSITIONAL PROVISIONS 17

ARTICLE 11.1 EVALUATION OF THE EDUCATION 17
ARTICLE 11.2 TRANSITIONAL PROVISIONS 17

APPENDIX I OVERVIEW OF ARTICLES THAT MUST BE INCLUDED IN THE OER 18

APPENDIX II OVERVIEW OF ADVISORY AND APPROVAL RIGHTS OF PROGRAMME COMMITTEES (OLC) AND FACULTY JOINT ASSEMBLY (FGV) 19

APPENDIX II (ENGLISH) OVERVIEW OF ADVISORY AND APPROVAL RIGHTS OF PROGRAMME COMMITTEES (OLC) AND FACULTY JOINT ASSEMBLY (FGV) 20

APPENDIX III ORDINANCES VU CVB AND BINDING GUIDELINES (RICHTLIJN) 21

APPENDIX IV ARTICLE 2.1 OF THE HIGHER EDUCATION AND RESEARCH (IMPLEMENTATION) ACT (UITVOERINGSBESLUIT) 22

APPENDIX IV (ENGLISH) ARTICLE 2.1 OF THE HIGHER EDUCATION AND RESEARCH (IMPLEMENTATION) ACT 23

Section A: Faculty section

1. General provisions

Article 1.1 Applicability of the Regulations

1. These Regulations apply to anyone enrolled in the programme, irrespective of the academic year in which the student was first enrolled in the programme.	Advice OLC, approval FGV (9.38 sub b)
2. These Regulations enter into force on 1 September 2023.	Advice OLC, approval FGV (9.38 sub b)
3. An amendment to the Teaching and Examination Regulations is only permitted to concern an academic year already in progress if this does not demonstrably damage the interests of students.	Advice OLC, approval FGV (9.38 sub b)

Article 1.2 Definitions

The following definitions are used in these Regulations (*in alphabetical order*):

a. academic year: the period beginning on 1 September and ending on 31 August of the following calendar year;

b. double degree programme: joint programme in the context of cooperation between Vrije Universiteit Amsterdam and an educational institution within or outside the Netherlands, as to gain a double university degree; of the VU and the educational institution concerned; though not being the same as a 'joint degree programme' according to the art. 7.3c WHW';

c. EC (European Credit): a course credit with a workload of 28 hours of study;

d. examination: an assessment of the student's knowledge, understanding and skills relating to a unit of education. The assessment is expressed in terms of a final mark. An examination may consist of one or more partial examinations. A resit always covers the same material as the original examination;

e. exemption: exemption from an examination/practical/fieldwork based on an earlier successfully completed examination, or knowledge/skills of a similar content, level and scope gained outside higher education;

f. final examination a master's programme consists of a master's examination;

g. joint degree: a degree awarded by an institution together with one or more institutions in the Netherlands or abroad, after the student has completed a study programme (a degree programme, a major or a specific curriculum within a degree programme) for which the collaborating institutions are jointly responsible;

h. period: a part of a semester;

i. practical exercise: the participation in a practical training or other educational learning activity, aimed at acquiring certain (academic) skills. Examples of practical exercises are:

- researching and writing a thesis or dissertation
- carrying out a research assignment
- taking part in fieldwork or an excursion
- taking part in another educational learning activity aimed at acquiring specific skills, or
- participating in and completing a work placement;

j.	pre-Master's enrolee:	person enrolled in a pre-Master's programme, who is not a student from a legal perspective;
k.	programme:	the totality and cohesion of the units of education, teaching activities/methods, contact hours, testing and examination methods and recommended literature;
l.	SAP/SLM:	the student information system (*Student Lifecycle Management*);
m.	semester:	the first (September - January) or second (February - August) half of an academic year;
n.	specialisation:	optional route of study within a degree programme indicating a deepening of the context of the programme (e.g. interdisciplinary or multidisciplinary);
o.	student statute:	sets out the rights and responsibilities of students on the one hand, and of Vrije Universiteit Amsterdam on the other hand, including those derived from the law and those derived from university regulations. The Executive Board (CvB) officially confirms the student statute once its completeness has been approved by the University Student Council (USC);
p.	study guide:	the guide for the study programme that provides further details of the courses, provisions and other information specific to that programme. The Study Guide is available electronically at:https://studiegids.vu.nl/en#/;
q.	study monitor: (*studiemonitor*):	dashboard for students and academic advisors with data of the student and that provides insight into the student's study progress;
r.	subject:	see 'unit of education';
s.	substituting course/unit of education:	see under b (double degree programme). A course obtained at the educational institute, within the context of cooperation, that is mentioned in the diploma supplement as such; not being an 'exemption';
t.	thesis	a unit comprising research into the literature and/or contributing to scientific research, always resulting in a written report;
u.	track:	a study pathway within a broader Bachelor's or Master's degree programme, such as a fully English-language study pathway within a Dutch-language Bachelor's or Master's programme;
v.	unit of education:	a unit of study of the programme within the meaning of the WHW;
w.	university:	Vrije Universiteit Amsterdam;
x.	WHW:	the Dutch Higher Education and Research Act (Wet op het Hoger Onderwijs en Wetenschappelijk Onderzoek);
y.	workload:	the workload of the unit of education to which an examination applies, expressed in terms of credits = EC credits (ECTS = European Credit and Transfer Accumulation System). The workload for 1 year (1,680 hours) is 60 EC.

The other terms have the meanings ascribed to them by the WHW.

2. Study programme structure

Article 2.1 Structure of academic year and units of education

1. The study programme will be offered in a year divided into two semesters.	Ordinance CvB, see Appendix III

2. Every semester consists of three consecutive periods. The first two periods each consist of eight weeks, and the final period consists of four weeks.	Ordinance CvB, see Appendix III
3. A unit of education comprises 6 EC or a multiple thereof.	Ordinance CvB, see Appendix III
4. By way of exception to paragraph 3, the Executive Board may in special cases and on request of the Faculty Board, stipulate that a unit of study comprises 3 EC or a multiple thereof.	Ordinance CvB, see Appendix III

3. Assessment and examination

Article 3.1 Signing up for education and examinations

1. Every student must sign up to participate in the units of education of the programme, the examinations and resits. The procedure for signing up is described in an annex to the student statute.	Ordinance CvB, see Appendix III
2. Signing up may only take place in the designated periods.	Ordinance CvB, see Appendix III

Article 3.2 Type of examination

1. At the examiner's request, the Examination Board may permit a different form of examination than is stipulated in the study guide.	Advice OLC, Approval FGV (7.13 l)

Article 3.3 Oral examinations

1. An oral assessment is public unless the Examination Board determines otherwise.	Advice OLC; approval FGV (7.13 l and n)

Article 3.4 Determining and announcing results

1. The examiner determines the result of a written examination within fifteen working days. However, the marking deadline for theses and final assignments is twenty working days after submission. The examiner will then immediately ensure that the marks are registered and also ensures that the student is immediately notified of the mark, taking due account of the applicable confidentiality standards.	Ordinance CvB, see Appendix III
2. The examiner determines the result (i.e. mark) of an oral examination as soon as possible, but at the latest within one working day after the examination has finished and informs the student accordingly. The third clause of the first paragraph applies.	Advice OLC; approval FGV (7.13 o)
3. In the case of assessments other than oral or written examinations, the Examination Board determines in advance how and by what deadline the student will be informed of the results.	Advice OLC; approval FGV (7.13 o)

Article 3.5 Examination opportunities

1. a. Per academic year, two opportunities to take examinations will be offered for each unit of education. b. By way of exception to a., the options for retaking practical exercises, work placements and theses are detailed in the relevant work placement manual, course manual of teaching regulations.	Ordinance CvB, see Appendix III
2. The most recent mark will apply in the event of a resit. A resit is allowed for both passed and failed units of study.	Ordinance CvB, see Appendix III

3. The resit for a (partial) examination must not take place within ten working days of the announcement of the result of the (partial) examination being resat.	Advice OLC; approval FGV (7.13 j)
4. The Examination Board may allow a student an extra opportunity to sit an examination if that student: a) lacks only those credits to qualify for their degree; and b) has failed the examination during all the previously offered attempts unless participation in an examination was not possible for compelling reasons. The extra opportunity can only be offered if it concerns a written examination, a paper or a take home examination. This provision excludes the practical exercises and the Master's thesis. Requests for an additional examination opportunity must be submitted to the Examination Board no later than 15 July. If necessary, the method of examination may deviate from the provisions in the study guide.	Ordinance CvB, see Appendix III
5. If a unit of education is no longer offered in the following academic year, at least one additional opportunity will subsequently be provided to sit the examination(s) or parts thereof and a transitional arrangement will be included in section B.	Advice OLC, approval FGV (7.13 j)

Article 3.6 Marks

1. Partial marks are given on a scale from 1 to 10 with no more than one figure after the decimal point.	Ordinance CvB, see Appendix III
2. A final mark between 5 and 6 will be rounded to the nearest whole number: final marks below 5.50 will be rounded down; final marks of 5.50 or higher will be rounded up. All other final marks will be expressed in whole or half marks. In case the examination of a component consists of two or more parts, each of which are graded separately, the (weighted) mean of these marks (meaning: the final mark) must be rounded off using the following table:	Ordinance CvB, see Appendix III
3. To pass a given course or unit, a final mark of 6 or higher is required.	Ordinance CvB, see Appendix III

From	To	Grade
1.00	1.24	1.0
1.25	1.74	1.5
1.75	2.24	2.0
2.25	2.74	2.5
2.75	3.24	3.0
3.25	3.74	3.5
3.75	4.24	4.0
4.25	4.74	4.5
4.75	5.49	5.0
5.50	6.24	6.0
6.25	6.74	6.5
6.75	7.24	7.0
7.25	7.74	7.5
7.75	8.24	8.0
8.25	8.74	8.5
8.75	9.24	9.0
9.25	9.74	9.5
9.75	10.0	10

4. The Examination Board can allow the use of symbols rather than numbers, for example: s(atisfactory), g(ood), u(n)s(at)is(factory), etc. In case a student does not take part in any examination, the examiner will register the mark 'ns' (c.q. no show).	Ordinance CvB, see Appendix III

Article 3.7 Exemption

1. At the written request of the student, the Examination Board may exempt the student from taking one or more examination components, if they: a) have either passed a unit of education at a university of applied science (hbo) or research university (wo) that is equivalent in terms of content and level; b) or have demonstrated through their work and/or professional experience that they have sufficient knowledge and skills with regard to the relevant unit of education.	Advice OLC; approval FGV (7.13 r)
2. The Master's thesis is excluded from this exemption possibility.	Advice OLC; approval FGV (9.38 sub b)
3. a. A maximum of 18 EC for a one-year master's programme and 36 EC for a two-year master's programme can be accumulated through granted exemptions. The substituting courses (courses obtained at another educational institute within the context of a double degree, see art. 1.2) are not included. b. This regulation does not apply if a student is (simultaneously) enrolled in multiple programmes, which lead to multiple degrees, where courses may be part of both programmes. In such a case, the examination board may deviate from the regulations under a.	Advice OLC; approval FGV (9.38 sub b)

Article 3.8 Validity period for results

1. The validity period of examinations passed and exemption from examinations is unlimited, unless otherwise specified in Section B.	Legal provision
2. The validity period of a partial examination is limited to the academic year in which it was sat or until the end of the unit of study concerned, as stipulated for the relevant unit of study in Section B. In exceptional circumstances, an examiner may deviate from this; this must be stated on Canvas at the start of the unit of education.	Advice OLC; approval FGV (9.38 sub b)

Article 3.9 Right of inspection and post-examination discussion

1. Within twenty working days after the announcement of the results of a written examination, but at least ten working days before the resit opportunity for that examination, the student can submit a request to inspect their assessed work, the questions and assignments set in it, as well as the standards applied for marking. The place and time where students can inspect their work will be announced on VU.nl Dashboard or Canvas in all cases.	Advice OLC; approval FGV (7.13 p and q)
2. If a collective post-examination discussion has been organized, individual post-examination discussions will be held only if the student has attended the collective discussion or if the student was unable to attend the collective discussion through no fault of their own.	Advice OLC; approval FGV (7.13 q)
3. Students who meet the requirements stipulated in paragraph 2 can submit a request for an individual post-examination discussion to the relevant examiner. The discussion shall take place at a time and location to be determined by the examiner within the regular timetable, on campus or online.	Advice OLC; approval FGV (7.13 p and q)

4. Academic student counselling and study progress

Article 4.1 Administration of study progress and academic student counselling

1.	The faculty board is responsible for the correct registration of the students' study results. After the assessment of a unit of education has been registered, every student has the right to inspect the result for that component and also has a list of the results achieved at their disposal in VU.nl Dashboard.	Advice OLC; approval FGV (7.13 u)
2.	Enrolled students are eligible for academic student counselling. Academic student counselling is in any case provided by a. The Student Counsellor b. Student psychologists c. Faculty academic advisers	Advice OLC; approval FGV (7.13 u)

Article 4.2 Facilities for students with a disability

1.	A student with a disability can submit a request via VU.nl Dashboard to qualify for one or more special facilities with regard to teaching, practical exercises and examinations. These facilities will accommodate the student's individual disability as much as possible, but may not alter the quality or degree of difficulty of a unit of education or an examination. In all cases, the student must fulfil the exit qualifications for the study programme.	Advice OLC; approval FGV (7.13 m)
2.	The request referred to in the first paragraph must be accompanied by a statement from a doctor or psychologist. If possible, an estimate should be given of the potential impact on the student's study progress. In case of a chronic disability a single (one time) request suffices.	Advice OLC; approval FGV (7.13 m)
3.	Students who have been diagnosed with dyslexia must provide a statement from a BIG-, NIP- or NVO-registered professional who is qualified to conduct a psychological evaluation.	Advice OLC; approval FGV (7.13 m)
4.	The faculty board, or the person acting on behalf of the faculty board, decides on teaching facilities and facilities regarding logistics. The Examination Board will decide on requests for facilities with regard to examinations.	Advice OLC; approval FGV (7.13 m)
5.	In the event of a positive decision in response to a request as referred to in paragraph 1, the student can make an appointment with the academic adviser to discuss the details of the provisions.	Advice OLC; approval FGV (7.13 m)
6.	A request for one or more facilities can be refused if it would place a disproportionate burden on the organization or the resources of the faculty or university were it upheld. Any such refusal will be substantiated.	Advice OLC; approval FGV (7.13 m)
7.	If the disability justifies an extension of the examination time, the responsible person on behalf of the Examination Board will register in SAP this entitlement to an extension. If a disability justifies other measures to be taken, the academic adviser can take the necessary measures. The student can consult the study monitor to check which facilities have been granted to them.	Advice OLC; approval FGV (7.13 m)
8.	The decision as referred to in paragraph 5 may specify a limited validity of the facilities granted.	Advice OLC; approval FGV (7.13 m)

5. Hardship clause

Article 5.1 Hardship clause

In instances not regulated by the Teaching and Examination Regulations or in the event of demonstrable extreme unreasonableness or unfairness, the faculty board responsible for the study programme will decide, unless the matter concerned is the responsibility of the Examination Board.	Advice OLC; approval FGV (9.38 sub b)

Section B1: Programme specific – general provisions

6. General programme information and characteristics

Article 6.1 Study programme information

1.	The programme Science, Business & Innovation CROHO number 69320 is offered on a full-time basis.	Advice OLC; approval FGV (7.13 i)

Article 6.2 Teaching formats used and modes of assessment

1.	The programme uses the teaching formats as specified in the study guide.	Advice OLC; approval FGV (7.13 x)
2.	The modes of assessment used per unit of education are specified in the study guide.	Advice OLC; approval FGV (7.13 l)

Article 6.3 Academic student counselling

1.	The programme offers the following counselling in addition to the student counselling mentioned in Section A: - Academic advisor	Advice OLC; approval FGV (7.13 u)

7. Further admission requirements

Article 7.1 Intake date(s)

1.	The programme starts on 1 September.	Advice OLC; approval FGV (9.38 sub b)

Article 7.2 Admission requirements

1.	Admission to the Master's programme is possible for an applicant who has a Bachelor's degree obtained at an institution of academic higher education, which demonstrates the following knowledge, understanding and skills: a. Knowledge and understanding: bachelor level of mathematics (at least 9 ECTS), statistics (at least 6 ECTS) and of business/innovation (at least 24 ECTS). b. Skills: Computer skills (at least 6 ECTS).	Advice OLC, approval by FGV (9.38 sub b)
2.	Applicants who wish to follow the track Energy & Sustainability must, in addition to the provisions in paragraph 1, also meet the following requirements with regard to: a. Knowledge and understanding: chemistry and-or physics courses including thermodynamics (of at least 45 EC) Applicants who wish to follow the track Life and Health must, in addition to the provisions in paragraph 1, also meet the following requirements with regard to: a. Knowledge and understanding: chemistry and-or physics courses including molecular and pharmaceutical sciences of at least 45 EC	Advice OLC, approval FGV (9.38 sub b)

Registration for the Master's programme in Science, Business & innovation is open to anyone who is in possession of: - a Bachelor's degree in Science, Business & Innovation or - a Bachelor's degree in Natuurwetenschappen en Innovatiemanagement [Natural Sciences and Innovation Management], awarded by the University of Utrecht.	
3. Applicants with a Bachelor's degree obtained at an institution outside the Netherlands may be asked for additional methods to prove that they meet the admission requirements.	Advice OLC; approval FGV (9.38 sub b)
4. Candidates who have completed a prior programme of education in a language other than Dutch which entitles them to admission must demonstrate adequate command of the Dutch language, which can be evidenced by successful completion of: not applicable.	Advice OLC; approval FGV (9.38 sub b)
5. Applicants should demonstrate that they have a sufficient level of proficiency in English by meeting at least one of the following standards, no more than two (2) years before the start of the programme at VU Amsterdam: - (academic) IELTS: 6.5 overall - TOEFL paper based test: minimum 580 - TOEFL internet based test: 92 overall TOEFL and IELTS tests must have been completed no more than two years before 1 September of the year in which your course starts. Note that TOEFL MyBestScore is not accepted.	Advice OLC; approval FGV (9.38 sub b)
6. Applicants who: - completed an English-taught secondary or higher education degree in Canada, the United States, the United Kingdom, Ireland, New Zealand or Australia; or - have earned a Bachelor's or Master's degree in an English-taught programme accredited by NVAO in the Netherlands; or - have earned a Bachelor's or Master's degree in an accredited English-taught programme in another member state of the European Union; or - have obtained a Cambridge Certificate of Proficiency in English (CPE) or a Cambridge Certificate of Advanced English (CAE) with a score of A, B or C; - Have English-language proficiency is at least equivalent to pre/university final/exam level VWO in the Netherlands are exempted from the requirements referred to in paragraph 5.	Advice OLC; approval FGV (9.38 sub b)
7. The Admission Board will investigate whether the applicant meets the admission requirements.	Advice OLC; approval FGV (9.38 sub b)

Article 7.3 Selection criteria

1. Not applicable.	Advice OLC, approval FGV (9.38 sub b)

Article 7.4 Pre-Master's programme

1. Applicants with a Bachelor's degree from a university of applied sciences (HBO) or a Bachelor's degree from a research university (WO) who wish to enter the programme but do not fulfill the admission requirements as stipulated in Article 7.2 can request admission to the pre-Master's program. Article 2 of these regulations does not apply to admission to a bridging or pre-	Advice OLC; approval FGV (9.38 sub b)

Master's programme. The provisions of sections A and B only apply to the extent that they are described in Article 7.4. Information about the programme from part B2 applies, insofar as it concerns the units of education from the pre-Master's programme.	
2. Not applicable	Advice OLC; approval FGV (9.38 sub b)
3. A candidate must demonstrate that they meet the language requirements, as specified in Article 7.2.	
4. The pre-Master's programme has 30 credits and consists of the following units: a. Is determined for each student individually The following terms also apply: a. If the pre-Master's enrolee is completing an individualized pre-Master's programme, this is to be communicated to the enrolee in writing. b. The Examination Board can, if the pre-Master's enrolee submits a written request, exempt the enrolee from one or more examinations.	Advice OLC; approval FGV (9.38)
5. Evidence that the pre-Master's programme has been completed successfully will entitle the enrolee to admission to the relevant Master's programme in the following academic year.	Advice OLC; approval FGV (9.38)
6. The pre-Master's programme must be completed within one academic year.	Advice OLC; approval FGV (9.38)

8. Examinations and results

Article 8.1 Sequence of examinations

1. Students may participate in in the SBI Project & Master Thesis (X_432735) only if they have passed the interim examination or examinations for the components mentioned hereinafter: - SBI Research Methodology (X_432846) - Science Project (XM_422591)	Advice OLC; approval FGV (7.13 h, s & t)

Article 8.2 Validity period for results

1. The validity period of the examinations and exemptions from examinations below, is limited as follows: Not applicable.	Advice OLC; approval FGV (7.13 k)
2. A student may request the Examination Board to extend the validity of an exam. If the student's knowledge is demonstrably outdated, or if the student's skills and insights are demonstrably outdated, the Examination Board may impose a supplementary examination, impose a replacement examination or refuse to extend the period of validity.	Legal provision
3. In situations where a limited period of validity applies, the period of validity of examinations may be extended in the event of extenuating circumstances as stipulated in WHW Article 7.51, paragraph 2, with at least the period of allocated financial assistance specified in WHW Article 7.15, paragraph 1.	Legal provision

Section B2: Programme specific – content of programme

9. Programme objectives, tracks/specialisations, exit qualifications and language

Article 9.1 Workload

1. The programme has a workload of 120 EC.	Advice OLC; (7.13 a)

Article 9.2 Tracks and/or specialisations

The programme has the following tracks and/or specialisations: - Life & Health - Energy & Sustainability	Approval OLC; (7.13 a)

Article 9.3 Programme objective

The aim of the programme is that SBI students learn to contribute to valorization of natural scientific knowledge in a business and innovation context while taking into account natural scientific as well as organizational, social and cultural variables. Students learn to contribute to valorization by means of developing, designing, executing, reporting and presenting academic research about valorization subjects in the empirical field. Students are educated for jobs in research-driven environments where valorization of findings and knowledge is a key driver. Students learn to contribute to the introduction, use and exploitation of new products, processes and services based on (knowledge from) natural scientific research and knowledge. The learning process is structured and driven by developing scientific research projects in the specific empirical setting. This takes place within one of the following tracks: 1. Energy & Sustainability (E&S), with an emphasis on renewable and clean energy development; 2. Life & Health (L&H), emphasizing drug development, molecular diagnostics and innovative medical instrumentation.	Advice OLC; (7.13 a)

Article 9.4 Exit qualifications

1. At all events, a graduate of the study programme will have: - demonstrated knowledge and understanding of modern chemistry/physics and business and social sciences to enable an original and methodologically sound approach in (applied) scientific research; - has demonstrated thorough knowledge of research methods, research culture, research organization and research processes in E&S or L&H; - has demonstrated thorough knowledge of the business- and social scientific aspects of innovation in E&S or L&H; - has the ability to apply one's knowledge of chemistry/physics and business- and social science in a broader (multidisciplinary) context; - has the ability to deal with the safety and environmental aspects of chemistry/physics; - is proficient in analysing and solving problems with regard to innovation trajectories in E&S or L&H;	Approval OLC (7.13 c)

	- has the ability to formulate a research plan, using an empirical or design research cycle, and based on a problem within the discipline of science-based or R&D-intensive innovation in E&S or L&H; - has the ability to analyze research results and to draw conclusions therefrom, and uses academic technological methods; - has the ability to write a scientific report about a research project, and to participate in discussion of the field of study that is related to this project; - has the ability to consult international academic literature in the relevant subareas (science- based or R&D-intensive innovation in E&S or L&H) and to apply the knowledge gained from that; - is proficient in applying the acquired theoretical and practical insights in day-to-day practice at an institute, company or organization, strongly focused on providing solutions that enable innovation trajectories in E&S or L&H business; - can communicate his/her conclusions, and the knowledge and rationale underpinning these, with peers, the larger scholarly community and with society in general; - is able to make a factual and critical contribution to a scientific or public discussion and is capable of presenting his/her findings in an international perspective in the form of an academic English-language article; - is capable and motivated to work goal- and task- oriented with and for others in a differentiated and dynamic - and interdisciplinary setting; - has strong affinity with management practices concerning innovation trajectories in E&S or L&H and takes into account academic, social, and technological opinions and methods in the context of his/her work.	
2.	Not applicable	Approval OLC (7.13 b)
3.	Language proficiency may be taken into account in the assessment of (interim) examinations only if indicated prior the test, practiced or given feedback during the course.	Approval OLC (7.13 c)

Article 9.5 Language of instruction

1.	The language of instruction is English.	Approval OLC (9.18)
2.	The 'Gedragscode vreemde taal' (Code of conduct foreign languages) applies.	Ordinance CvB, see Appendix III

10. Curriculum structure

Article 10.1 Composition of the programme

1.	The programme comprises at least a package of compulsory components and an individual Master's thesis or academic internship.	Ordinance CvB, see Appendix III
2.	Additionally the programme can offer: - Practicals - Electives	Advice OLC; (7.13 a)
3.	Units of education are categorized as specialized (400), research oriented (500) and highly specialized (600) level.	Ordinance CvB, see Appendix III

Article 10.2 Compulsory units of education

A detailed description per unit of education can be found in the Study Guide.

Unit of education	course code	nr of EC	level	Advice OLC; (7.13 a)
All specialisations				
SBI Research Methodology	X_432846	6	500	
Management of sustainable Innovation	E_DBI_MANSI	6	400	
Changing Organizational Culture	S_COC	6	500	
Digital Innovation: New Ways of Organizing and Working	X_400653	6	400	
SBI Project & Master Thesis	X_432735	36	600	
Science project	XM_422591	24	400	
Specialisation Life and Health				
Business, Innovation and Value Creation	X_432723	6	500	
Specialisation Life and Health (choose at least 2):				
From Physics to Physiology	X_430112	6	400	
Green and Circular Chemistry	XMU_0040	6	400	
Principles of Drug Targets	XM_0105	6	400	
Principles of Drug Discovery	XM_0106	6	400	
Caput Protein Structure, Function	XM_0133	6	500	
Specialisation Energy and Sustainability				
Current Sustainable Energy Technologies	X_422582	6	500	
Specialisation Energy and Sustainability (choose at least 2):				
Green and Circular Chemistry	XMU_0040	6	400	
Biosolar Cells	X_428531	6	400	
Project Sustainable Future	X_432784	6	500	

Article 10.3 Elective units of education

1. The student can take one or more of the following electives without prior consent from the Examination Board:				Advice OLC; (7.13 a)
Name of unit of education	course code	nr of EC	level	
Electives all specialisations:				
Transdisciplinarity and Transition	X_430604	6	400	
International Intellectual Property Law	R_Int.prop.l	6	400	
Science and Society in Historical Perspective	X_400424	6	400	
Organizing in a Digital Society	E_BA_ODS	6	400	
Management and Practice of Consulting	E_BA_MPC	6	400	
Strategy Evaluation and Advice	E_BA_SEA	6	400	
The Entrepreneurial Venture	E_ENT_TEV	6	400	
Environmental Policy	AM_468021	6	400	
New Business Models and Consulting	E_BA_NBMC	6	400	

Entrepreneurship in Renewable Energy	XMU_0053	6	400	
Management of Digital Innovation	E_DBI_MDI	6	400	
2. If the student wishes to take a different unit of education than listed, advance permission must be obtained in writing from the Examinations Board.				Advice OLC; (7.13 a)

Article 10.4 Practical exercise

Not applicable

Article 10.5 Participation in practical training and tutorials

1. In the case of practical training, students must attend at least 100% of the practical sessions. If they attend less than 100%, they must repeat the practical training, or the Examination Board may have one or more supplementary assignments issued	Approval OLC (7.13 d)
2. In the case of a tutorial, students must attend at least 100% of the practical sessions. If they attend less than 100%, they must repeat the practical training, or the Examination Board may have one or more supplementary assignments issued.	Approval OLC (7.13 d)

11. Evaluation and transitional provisions

Article 11.1 Evaluation of the education

1. The education provided in this programme is evaluated in accordance with the document 'Kwaliteitszorg Onderwijs BETA'.	Approval OLC (7.13 a1)

Article 11.2 Transitional provisions

By way of departure from the Teaching and Examination Regulations currently in force, the following transitional provisions apply for students who started the programme under a previous set of Teaching and Examination Regulations: - The course Caput Protein Structure as Molecular Basis of Disease (AM_470120) will be replaced by the course Caput Protein Structure, Function and Valorization. - SBI Project & Master Thesis (X_432735) will only commence in January of each year. - The science elective course Protein Science (AM_470145) is no longer open for SBI students unless they have permission from the course coordinator to follow this course.	Advice OLC (7.13 a)

Approval of the Programme Committee of the curriculum structure (submitted via UAS), on 13/12/2022.

Advice and approval by the Programme Committee (with the exception of the curriculum structure), on 30/05/2023.

Approved by the Faculty Joint Assembly, on 23/06/2023.

Adopted by the board of the Faculty of Sciences on 23/06/2023.

Appendix I

Overview of articles that must be included in the OER

Based on Article 7.13, paragraph 2, of the WHW and other Articles of the Act.

Section A: Faculty section

2. Study programme structure	
Article 2.1 Structure of academic year and units of education	7.13 paragraph 2 sub e
3. Assessment and examination	
Article 3.2 Type of examination	7.13 paragraph 2 sub h, l, j
Article 3.3 Oral examinations	7.13 paragraph 2 sub l, n
Article 3.4 Determining and announcing results	7.13 paragraph 2 sub o
Article 3.5 Examination opportunities	7.13 paragraph 2 sub h, j
Article 3.7 Exemption	7.13 paragraph 2 sub r
Article 3.8 Validity period for results	7.13 paragraph 2 sub k
Article 3.9 Right of inspection and post-examination discussion	7.13 paragraph 2 sub p, q
4. Academic student counselling and study progress	
Article 4.1 Administration of study progress and academic student counselling	7.13 paragraph 2 sub u
Article 4.2 Facilities for students with a disability	7.13 paragraph 2 sub m

Section B1: Programme specific – general provisions

6. General programme information and characteristics	
Article 6.1 Study programme information	7.13 paragraph 2 sub i, r
Article 6.2 Teaching formats used and modes of assessment	7.13 paragraph 2 sub l, x
[option:] Article 6.3 Academic student counselling	7.13 paragraph 2 sub u
7. Further admission requirements	
Article 7.2 Admission requirements	7.30b paragraph 1
Article 7.3 Selection criteria	7.30b paragraph 2, 5
8. Examinations and results	
Article 8.1 Sequence of examinations	7.13 paragraph 2 sub h, s, t
[option 1:] Article 8.2 Validity period for results	7.13 paragraph 2 sub k
[option 2:] Article 8.2 Validity period for results	7.13 paragraph 2 sub k

Section B2: Programme specific – content of programme

9. Programme objectives, tracks/specialisations, exit qualifications and language	
Article 9.1 Workload	7.13 paragraph 2 sub g
Article 9.2 Tracks and/or specialisations	7.13 paragraph 2 sub a
Article 9.3 Programme objective	7.13 paragraph 2 sub a
Article 9.4 Exit qualifications	7.13 paragraph 2 sub b, c
Article 9.5 Language of instruction	9.18 (*implementation expected in 2020*)
10. Curriculum structure	
Article 10.1 Composition of the programme	7.13 paragraph 2 sub a
Article 10.2 Compulsory units of education	7.13 paragraph 2 sub a
[Optional] Article 10.3 Elective units of education	7.13 paragraph 2 sub a
[Optional] Article 10.4 Practical exercise	7.13 paragraph 2 sub d
Article 10.5 Participation in practical training and tutorials	7.13 paragraph 2 sub d
11. Evaluation and transitional provisions	
Article 11.1 Evaluation of the education	7.13 paragraph 2 sub a1
Article 11.2 Transitional provisions	7.13 paragraph 2 sub a

Appendix II

Overview of advisory and approval rights of Programme Committees (OLC) and Faculty Joint Assembly (FGV)

(English below)

Onderwerpen Onderwijs – en Examenregeling (OER) 7.13 lid 2 WHW	FGV		OplC	
	I	A	I	A
a. de inhoud van de opleiding en van de daaraan verbonden examens				
a1. de wijze waarop het onderwijs in de desbetreffende opleiding wordt geëvalueerd				
b. de inhoud van de afstudeerrichtingen binnen een opleiding				
c. de kwaliteiten op het gebied van kennis, inzicht en vaardigheden die een student zich bij beëindiging van de opleiding moet hebben verworven				
d. waar nodig, de inrichting van praktische oefeningen				
e. de studielast van de opleiding en van elk van de daarvan deel uitmakende onderwijseenheden				
f. de nadere regels, bedoeld in de artikelen 7.8b, zesde lid, en 7.9, vijfde lid *(BSA)*				
g. ten aanzien van welke masteropleidingen toepassing is gegeven aan artikel 7.4a, achtste lid *(verhoogde studielast)*				
h. het aantal en de volgtijdelijkheid van de tentamens alsmede de momenten waarop deze afgelegd kunnen worden				
i. de voltijdse, deeltijdse of duale inrichting van de opleiding				
j. waar nodig, de volgorde waarin, de tijdvakken waarbinnen en het aantal malen per studiejaar dat de gelegenheid wordt geboden tot het afleggen van de tentamens en examens				
k. waar nodig, de geldigheidsduur van met goed gevolg afgelegde tentamens, behoudens de bevoegdheid van de examencommissie die geldigheidsduur te verlengen				
l. of de tentamens mondeling, schriftelijk of op een andere wijze worden afgelegd, behoudens de bevoegdheid van de examencommissie in bijzondere gevallen anders te bepalen				
m. de wijze waarop studenten met een handicap of chronische ziekte redelijkerwijs in de gelegenheid worden gesteld de tentamens af te leggen				
n. de openbaarheid van mondeling af te nemen tentamens, behoudens de bevoegdheid van de examencommissie in bijzondere gevallen anders te bepalen				
o. de termijn waarbinnen de uitslag van een tentamen bekend wordt gemaakt alsmede of en op welke wijze van deze termijn kan worden afgeweken				
p. de wijze waarop en de termijn gedurende welke degene die een schriftelijk tentamen heeft afgelegd, inzage verkrijgt in zijn beoordeelde werk				
q. de wijze waarop en de termijn gedurende welke kennis genomen kan worden van vragen en opdrachten, gesteld of gegeven in het kader van een schriftelijk afgenomen tentamen en van de normen aan de hand waarvan de beoordeling heeft plaatsgevonden				
r. de gronden waarop de examencommissie voor eerder met goed gevolg afgelegde tentamens of examens in het hoger onderwijs, dan wel voor buiten het hoger onderwijs opgedane kennis of vaardigheden, vrijstelling kan verlenen van het afleggen van een of meer tentamens				
s. waar nodig, dat het met goed gevolg afgelegd hebben van tentamens voorwaarde is voor de toelating tot het afleggen van andere tentamens				
t. waar nodig, de verplichting tot het deelnemen aan praktische oefeningen met het oog op de toelating tot het afleggen van het desbetreffende tentamen, behoudens de bevoegdheid van de examencommissie vrijstelling van die verplichting te verlenen, al dan niet onder oplegging van vervangende eisen				
u. de bewaking van studievoortgang en de individuele studiebegeleiding				
v. indien van toepassing: de wijze waarop de selectie van studenten voor een speciaal traject binnen een opleiding, bedoeld in artikel 7.9b, plaatsvindt *(excellentietraject binnen een opleiding)*				
x. de feitelijke vormgeving van het onderwijs				
alle overige onderwerpen die in de OER zijn geregeld maar die niet als zodanig zijn genoemd in art. 7.13 WHW onder a t/m x.				

De lettering komt overeen met de lettering van artikel 7.13 lid 2 WHW

Afkortingen:

FGV: Facultaire Gezamenlijke Vergadering
OplC: Opleidingscommissie
I: Instemmingsrecht
A: Adviesrecht

Appendix II (English)

Overview of advisory and approval rights of Programme Committees (OLC) and Faculty Joint Assembly (FGV)

Disclaimer: this is a translation which only serves as an aid. No rights may be derived from it. The Dutch document prevails.

Article 7.13, paragraph 2, of the Higher Education and Research Act	FGV		OplC	
	I	A	I	A
a. content of the programme and associated examinations				■
a1. the manner in which teaching and education in the relevant programme are evaluated			■	
b. the content of the specialisations offered as part of the programme			■	
c. the programme's final attainment levels with regard to the knowledge, understanding and skills			■	
d. where applicable, the design of practical exercises			■	
e. the workload of the programme and of each of its constituent educational units			■	
f. the detailed rules referred to in Article 7.8b, sixth paragraph, and Article 7.9, fifth paragraph (recommendation on continuation of studies)				■
g. the Master's programmes to which Article 7.4a, eighth paragraph, applies (elevated workload)			■	
h. the number and sequence of examinations and the times at which these can be taken	■			■
i. the full-time, part-time or work-study structure of the programme	■			■
j. where necessary, the order, and the periods in which and the number of times per academic year that the opportunity to sit examinations and final degree assessments is given	■			■
k. where necessary, the period of validity for pass grades awarded for examinations, notwithstanding the authority of the Examination Board to extend this period of validity	■			■
l. whether examinations are administered in oral, written or another form, notwithstanding the authority of the Examination Board to decide otherwise	■			■
m. the way in which students with a disability or chronic health condition are given a reasonable opportunity to take the examinations	■			■
n. the public nature of oral examinations, subject to the right of the Examination Board to determine otherwise in special cases	■			■
o. the period within which the results of an examination must be announced, together with details of whether this period can be altered and if so in what way	■			■
p. the way in which and the period within which students who have taken an examination are given the opportunity to inspect their marked work	■			■
q. the way in which and the period within which information can be provided about the questions asked and exercises given in the framework of a written examination and about the standards used for assessment	■			■
r. the grounds on which the Examination Board could grant exemption from the taking of one or more examinations to students who have previously passed examinations in higher education or have acquired knowledge or skills outside higher education	■			■
s. where necessary, the stipulation that students must pass certain examinations as a condition for admission to other examinations	■			■
t. where necessary, the obligation to take part in certain practical exercises with a view to admission to the examination in question, subject to the authority of the Examination Board to grant exemption from this obligation, with or without the imposition of alternative requirements	■			■
u. the monitoring of academic progress and individual student support and guidance	■			■
v. where applicable, the manner in which students are selected for a special track within a programme as referred to in Article 7.9b (excellence track within a programme)			■	
x. the actual design of the education provided	■			■
All other matters that are regulated in the Academic and Examination Regulations but which are not mentioned as such in Article 7.13 of the Higher Education and Research Act under points a to x.				■

Abbreviations used:

FGV: Faculty Joint Assembly
OplC: Programme Committee
I: right of approval
A: right of advice

Appendix III
Ordinances VU CvB and Binding Guidelines (richtlijn)

Section A, article:	Concerns:	CvB ordinance / guideline
2.1.1, 2.1.2	Year planning two semesters 8-8-4 (uniform year calendar VU-UvA)	29-9-2008 (period 2009-2015) 22-05-2014 (period 2016-2025)
2.1.3, 2.1.4	Units of education	Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017
3.1	Signing up for education and examinations	CvB ordinance 30-09-2010, prior consent USR.
3.4.1	Determination and publication of the results (1) Grading deadline exams ten working days (2) Theses twenty working days	(1) Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017 ((2) Quality demand 11 from the VU assessment policy, CvB ordinance 15-05-2012
3.5.1	Two possibilities to take examinations per year	Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017
3.5.2	Retake: Most recent grade is valid A pass can be retaken	Taken from the UvA guidelines, as part of the harmonization, CvB ordinance 24-02-2014
3.5.4	One-time extra resit in relation to examination requirement	Included in (prior) model OER 16-17 following a request from committee O&O and adopted by CvB op 27-10-2015
3.6	Grades	CvB ordinance 30-09-2010, with University council's consent. As a result of harmonization UvA, the guideline: 5.5 is a pass, has been added. CvB ordinance 24-02-2014.
Section B1, article:	**Concerns:**	**CvB ordinance / guideline**
7.2	Admission criteria; at least WO Bachelor's degree	Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017
7.3	Selection criteria; type of criteria	Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017
Section B1, article:	**Concerns:**	**CvB ordinance / guideline**
10.1	Composition programme	Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017
10.2	Categorization of units	Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017

Appendix IV

Article 2.1 of the Higher Education and Research (Implementation) Act (Uitvoeringsbesluit)

(English below)

1 De persoonlijke omstandigheden bedoeld in de artikelen 7.8b, derde lid, en 7.9, derde lid, van de wet, zijn uitsluitend:

a. ziekte van betrokkene,
b. lichamelijke, zintuiglijke of andere functiestoornis van betrokkene,
c. zwangerschap van betrokkene,
d. bijzondere familie-omstandigheden,
e. het lidmaatschap, daaronder begrepen het voorzitterschap, van:

1. bij universiteiten: de universiteitsraad, faculteitsraad, het orgaan dat is ingesteld op grond van de medezeggenschapsregeling, bedoeld in artikel 9.30, derde lid, onderscheidenlijk artikel 9.51, tweede lid, van de wet, het bestuur van een opleiding of de opleidingscommissie, alsmede het lidmaatschap van het bestuur van een stichting die blijkens haar statuten tot doel heeft de exploitatie van voorzieningen, behorende tot de studentenvoorzieningen, dan wel van een daarmee naar het oordeel van het instellingsbestuur gelet op de taak gelijk te stellen orgaan,

2. bij hogescholen: de medezeggenschapsraad, deelraad, studentencommissie of opleidingscommissie.

f. andere in de regelingen, bedoeld in de artikelen 7.8b, zesde lid, en 7.9, vijfde lid, van de wet door het instellingsbestuur aan te geven omstandigheden waarin betrokkene activiteiten ontplooit in het kader van de organisatie en het bestuur van de zaken van de instelling,
g. het lidmaatschap van het bestuur van een studentenorganisatie van enige omvang met volledige rechtsbevoegdheid, dan wel van een vergelijkbare organisatie van enige omvang, bij wie de behartiging van het algemeen maatschappelijk belang op de voorgrond staat en die daartoe daadwerkelijk activiteiten ontplooit.
h. andere in de onderwijs- en examenregeling, bedoeld in artikel 7.13 van de wet, op grond van artikel 7.13, tweede lid, onderdeel f, van de wet, vast te leggen persoonlijke omstandigheden,
i. andere dan in de onderdelen a tot en met h bedoelde persoonlijke omstandigheden die, indien zij door het instellingsbestuur niet in de beoordeling zouden worden betrokken, zouden leiden tot een onbillijkheid van overwegende aard.

2 Het instellingsbestuur kan voor de toepassing van het eerste lid, onderdeel g, nadere regels vaststellen omtrent het aantal bestuursleden dat ten hoogste per organisatie per studiejaar in aanmerking komt, zomede omtrent welke bestuursfuncties in aanmerking komen.

Appendix IV (English)

Article 2.1 of the Higher Education and Research (Implementation) Act

Disclaimer: This is a translation which only serves as an aid. No rights may be derived from it. The Dutch document prevails.

1.The extenuating personal circumstances referred to in Article 7.8b, paragraph 3 and 7.9, paragraph 3 of the Act (WHW) are limited to:

a. illness of the person concerned,
b. physical, sensory or other impairment of the person concerned,
c. pregnancy of the person concerned,
d. extenuating family circumstances,
e. membership, including the chairmanship of:

1. universities: the university council, faculty council, the body established under the participation regulation referred to in Article 9.30, paragraph 3, or Article 9.51, paragraph 2, of the Act, the programme management or the programme committee, or membership on the board of a foundation whose bylaws allow for the exploitation of facilities belonging to the student services, or an equivalent body with regard to its activities in the opinion of the board of the institution,
2. universities of applied sciences: the participation council, district council, student committee or programme committee,

f. other circumstances to be designated by the board of the institution in the regulation as referred to in Article 7.8b, paragraph 6, and Article 7.9, paragraph 5, of the Act in which the person concerned engages in activities within the framework of the organization and the administration of the affairs of the institution,
g. membership on the board of a student organization of a certain size with full legal capacity, or a similar organization of a certain size, whose primary task regards general societal interest and which actually develops activities for this purpose,
h. other personal circumstances set out in the Teaching and Examination Regulations as referred to in Article 7.13 of the Act, pursuant to Article 7.13, paragraph 2, clause f of the Act,
i. personal circumstances other than those referred to in a – h above which, if overlooked by the governing bodies of the institution, would lead to an obviously unfair outcome.

2. The institutional board may, for the purposes of the first paragraph, part g, establish specific rules regarding the maximum number of eligible board members per organization per academic year, as well as the eligible administrative offices.