Teaching and Examination Regulations
of the program

master Data Science for Life Sciences
(full-time)

Institute for Life Science & Technology

Hanze UAS of Applied Sciences, Groningen

Adopted by the Dean of the Institute for Life Science & Technology on 1 february 2019

These regulations take effect from 1 february 2019

Index

Education regulation Institute for Life Science & Technology for the master's program Data Science for Life Sciences

1. Study Program

1.1 Programme Description

The Institute for Life Science & Technology at the Hanze UAS offers the master's program Data Science for Life Sciences (DSLS). The core of the set-up of this master's program is the growing demand for data-scientists. Computer science is becoming increasingly intertwined with Life Sciences and is now an indispensable part of this research-intensive sector. The data analyst of the future is aware of the new developments in the field and knows exactly how and where the required information can be gathered and processed in order to come to a well-founded conclusion. The master DSLS meets this growing demand for data-scientists with the first HBO master in this area. With a practical curriculum and a strong link with the professional field in the form of collaborations with companies and institutions in the region, the Hanze UAS trains students to become thorough researchers and professionals specialized in data-driven methodologies that play an increasingly prominent role in Life Sciences.

1.2 Examining Board and Assessment Committee

The Examining Board is responsible for assuring the quality of the program by supervising the content, method and level of the examinations. It has the duty to determine whether graduates have achieved the end qualifications. The members of the Examining Board are appointed by the dean.

The Assessment Committee is responsible for monitoring the quality of examinations and operates under the supervision of the Examining Board.
For current information and accessibility to the composition of the examination and testing committee, see the link Examining Board

1.3 Admissions Committee

The Admissions Committee assesses whether the student meets the entry requirements and advises the dean which applicants may be admitted to the program and which parts of the preparatory course are necessary to reach a sufficient level of entry.
For the composition of the Admissions Committee, see the link for additional information Admissions Committee

1.4 Graduation Committee

The Graduation Committee checks the available graduation projects for master level, consistency and suitability. For the composition of the graduation committee, see the link graduation committee and graduation manual.

1.5 Representative Council of the School

The Representative council of the School is the democratically elected body of the Institute. Half of them consists of students and half of them are employees.

The Representative council of the School aims to promote a good course of affairs within the Institute, in accordance with the applicable legal provisions and the rules laid down in the regulations of the Hogeschool Participation Council (HMR).
These regulations can be found on the intranet of the Hanze UAS. For the composition of the board and the procedure for the appointment and election of the members of the IPC, see the link Representative Council of the School

1.6 Program Committee

The program committee is the body charged with issuing recommendations on enhancing and safeguarding the quality of the degree programme. It also issues solicited and unsolicited recommendations to the dean on all matters relating to education at the relevant programme. The Program Committee has the right to approve the Teaching Regulations. The Program Committee comprises an equal representation of students and lecturers. The method in which the Program Committee is composed is set out in the Board of Studies Regulations.
For the composition of the study program committee, see the link Program Committee

1.7 Professional Board

The Professional Board monitors and evaluates the professional relevance of the master program. The Board makes recommendations to the program management for changes to the program and makes recommendations for master thesis project topics. The Professional Board consists of at least five representatives at the strategic level from organizations and companies in the field of life sciences. The Board meets at least twice a year to discuss developments and provide input.
For the composition of the Professional Board, see the link Professional Board

2. Intended learning outcomes (final level)

Program Outcomes of the master

The program outcomes of the master DSLS are based on review of current developments in data science and life science, as described above. Close attention is paid to the demands and needs of the professional field, e.g. UMCG and Avebe innovation center.

Program outcomes of the master DSLS were developed in co-operation with the professional board to ensure that the program outcomes and content are up-to-date and aligned with (international) professional needs.

A professional DSLS should be able to work in a self-directed and autonomous manner on complex problems, integrating data from different areas within the scope of life science. As such, the professional DSLS needs to be skilled in methods for data handling and analysis, but also in data-stewardship and effective communication, especially in a multidisciplinary setting. In addition, Hanze UAS of Applied Sciences aims to deliver students with an entrepreneurial attitude, which is also reflected in the program outcomes. These program outcomes are listed below

CR: Conduct critical and creative research
The graduate can formulate a testable hypothesis relevant to a client's question. The graduate can assess existing methods and solutions to similar problems and critically evaluate their applicability in the present context. The graduate can choose appropriate data research methods and motivate this choice, or adapt such methods creatively to obtain original solutions for the problem at hand. Once implemented, the graduate critically evaluates the obtained solution per available technical and engineering best practices in the field, and iterates to converge to an optimal solution. The graduate can generalize these methods to apply them in neighboring fields or related problems in new environments.

MM: Model meaningful information
The graduate applies appropriate mathematical, statistical and machine learning techniques to identify patterns, causal relations, and actionable knowledge, and to make predictions. The graduate demonstrates the ability to integrate knowledge, handle complexity and to extract meaningful information from (incomplete) data.

DO: Deliver organized solutions
The graduate retrieves multilevel data from multiple sources and can organize, combine, clean, process and store those reliably, adhering to the FAIR principles (Findable, Accessible, Interoperable and Re-usable). Written code is organized, well written, well documented, traceable via version control management systems, and suitably licensed.

CE: Communicate Effectively
The graduate communicates actively and effectively about his/her work with experts, peers and laymen in writing, orally and in visual form. In particular, the graduate can effectively phrase the research question or problem, explain and justify the methods and/or approach proposed or taken, and present the results in a clear manner, together with a critical, reflective interpretation.

BR: Being responsible
The graduate is aware of work-related ethical and legal aspects, and takes responsibility to act per applicable laws and best practices, in particular pertaining to privacy issues, integrity and security. In addition, the graduate is aware of the professional responsibility within society and, where possible, adheres to the FAIR (Findable, Accessible, Interoperable, and Reusable) principles for scientific data management and stewardship.

BE: Being entrepreneurial
The graduate demonstrates awareness of and focus on broader and/or commercial application of research outcomes. The graduate can formulate business ideas and can bind stakeholders. The graduate is a self-directed and autonomous professional that feels responsible to act in the face of challenges.
The program outcomes were developed in accordance with the Dublin Descriptors. The table below provides the link between the master DSLS program outcomes and the Dublin descriptors.

Table 1: program outcomes related to Dublin descriptors.

Dublin descriptor	Master Data Science for Life Sciences
Knowledge and understanding Demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with the first cycle, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context.	CR, MM, DO
Applying knowledge and understanding Can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.	CR, MM, DO, CE. BE
Making judgements Can integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements.	CR, MM, BR
Communications Can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously.	CR, CE
Learning skills	CR, BE

Have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.	

3. Program Outline

3.1 Curriculum overview

The master DSLS is a fulltime program. The table below shows the overview of the curriculum.

Table 2: overview of the curriculum

	Semester 1	Semester 2	Semester 3
Projects	Omics project (quantified self) (10 EC)	Omics project (integrated omics) (10 EC)	Graduation project and thesis (30 EC)
Courses	Preparatory Course (5 EC)	Data Science II (modeling) (5 EC)	
	Data Science I (exploration) (5 EC)	Data Science III (prediction) (5 EC)	
	Programming I (design) (5 EC)	Programming II (big data) (5 EC)	
Research & Professional skills	Research & professional skills (10 EC)		

3.2 Curriculum overview and study program

Bio-informatics; Master Data Science for Life Sciences 2018-2019 **Examcode master: MDSLS18**

Semester 1				Semester 2			
Quantified Self				**Integromics**			
Course	**code**	**EC**	**AT**	**Course**	**code**	**EC**	**AT**
Prepcourse:							
Datascience and/or	BFVM18DATASC	* 2,5	W	Data Science II	BFVM18DATASC2	5	C
Programming and/or	BFVM18PROGR	* 2,5	C	Data Science III	BFVM18DATASC3	5	C
Omics	BFVM18OMICS	* 2,5	W	Programming II	BFVM18PROGR2	5	C
Data Science I	BFVM18DATASC1	5	C	Omics Project: Integromics	BFVM18OMICSINT	10	P
Programming I	BFVM18PROGR1	5	C	Research & Professional Skills	BFVM18RSRPFS2	5	D
Omics project: Quantified Self	BFVM18OMICSQS	10	P				
Research & Professional Skills	BFVM18RSRPFS1	5	D				
Total		**30**		**Total**		**30**	

Semester 3			
Graduation			
Course	**code**	**EC**	**AT**
Graduation Project	BFVM18GRAD	30	P/O
Total		**30**	

D = Digital Portfolio / Proof of Competence

W = Written Exam

C = Computer Exam

P = Professional Product

A = Assignment

O = OralExam

EC = European Credits

AT = Assessment Type

* = Choose 2

4. Curriculum

4.1 Curriculum Components

The study components of the study program are described in the educational planning system (Osiris) and form part of this regulation.

4.2 Curriculum Components taught in a Foreign Language

The professional field of Life Sciences is international in character. All curriculum components of the master DSLS at Hanze UAS are taught in the English Language.

4.3 Final-Stage Program

The Final-Stage project consists of a graduation project and thesis.
The gradutation project will be assessed on the basis of:
1. practical work and performance;
2. a written report (thesis);
3. a oral presentation and its defense.

5. Admission Requirements

5.1 Prior Learning Requirements

The master DSLS is accessible to students with the following Hanze UAS Bachelor's degree (or equivalent):

- Bachelor of Chemistry;
- Bachelor of Chemical Engineering;
- Bachelor of Engineering major Sensor Technology;
- Bachelor of Biology and Medical Laboratory Research;
- Bachelor of Bioinformatics;
- Bachelor of Medical Imaging and Radiation Therapy
- Bachelor of Communication, Media & IT.

Entrance level
In general, holders of a Bachelor's degree within the fields described above must deliver documented proof of knowledge and skills in the disciplines of programming, data science and biology. Demonstrated proof is either a diploma, a certificate, a portfolio or a sufficient grade of the entry test.

5.1.1 Admission committee acceptance procedure

There is a preparatory course comprised of the modules programming, data science and biology (omics).
The following procedure will be followed for all students attending the DSLS Master programme:

- The student selects one module as a candidate for an exemption to the Admission Committee.
- Based on proof of completion of a curriculum of one of the Bachelor programmes mentioned above, a student should receive one exemption for a preparatory course to participate in the programme.
- If the student is unable to provide proof of competence in the form of a diploma / rounded off curriculum of one of the abovementioned course programmes, the student should participate in an exam to assess the student's competence in the knowledge and skills of said module as specified below in 5.1.2, 5.1.3, 5.1.4.
- If the student is unable to prove his/her competence by either the portfolio and/or the entry test the student cannot be admitted to the DSLS Master program (procedure below).
- All students will participate in two preparatory courses. Attendance of the lessons is not compulsory but passing the final exams is compulsory for attendance of the main program.

Admission committee acceptance procedure outcome
The documented proof will be considered carefully by the admission committee. The outcome of this procedure has 3 options:

1. The student matches the Bachelor's degree (see the list above) and receives an exemption for either the Programming, Data Science or Biology prep course based on his/her portfolio.
2. The student does not have the Bachelor's degree (see the list above) and is not acceptable in the Master DSLS.
3. The student does not have the Bachelor's degree (see the list above) but a related degree. The student will be asked to do an entry test to assess the student's competence in the knowledge and skills of said module as specified below in 5.1.2, 5.1.3, 5.1.4. If the student fails the entry test, the student is not acceptable in the Master DSLS.

5.1.2 Programming knowledge and skills

Applicants should have basic programming skills. Applicant must be able to read, manipulate and write data with a software script given a defined problem.

Required knowledge:
- Data types, (built-in) functions, flow control structures and standard library
- Script documentation
- Exception handling
- Input / Output (file) handling
- Object-oriented programming
- Decorators, generators and knowledge about the itertools module

Basic programming skills:
- formulate a solution to a moderately complex problem and divide this solution into a logical series of smaller steps.
- Write a well-organised script (containing functions and classes) from specifications
- debug a script containing logical and/or syntax errors

Preparation of entry test, if required, can be done by studying
Barry, P., 2016. Head First Python: A Brain-Friendly Guide. O'Reilly Media, Inc.
C1; The Basics: Getting Started Quickly
C2; List Data: Working With Ordered Data
C3; Structured Data: Working With Structured Data
C4; Code Reuse: Functions and Modules
C5; Building a Webapp: Getting Real
C6; Storing and Manipulating Data: Where to Put Your Data
C8; A Little Bit of Class: Abstracting Behaviour and State
C10; Function Decorators: Wrapping Functions
C11; Exception Handling: What to Do When Things Go Wrong
C12; Advanced Iteration: Looping Like Crazy

5.1.3 Data science knowledge and skills

Applicants should have basic mathematical skills and knowledge in the fields of calculus, statistics and linear algebra. Applicants must be able to do simple modelling, data analysis and hypothesis testing using statistics, and understand and apply basic calculus and linear algebra techniques.

Required knowledge:
- Calculus: equations, functions, derivatives and anti-derivatives (special functions: trigonometric, exp/log, polynomial), plots, ordinary differential equations
- Frequentist statistics: probability, marginal and conditional probabilities, null-hypothesis, p- value, type-I/II errors, sampling, descriptive statistics, distributions, statistical testing, statistical power
- Linear algebra vectors and matrices, special matrices, transpose, multiplication, matrix inverse, determinant and trace, linear regression

Basic skills:
- interpret mathematical notation of calculus, statistics and linear algebra
- apply basic equations analytically, including linear, rational, quadratic, trigonometric, exp/log equations in one variable
- execute differentiation and integration of standard functions in simple forms
- understand probabilistic concepts related to the scientific method
- apply descriptive statistics and execute standard statistical tests, including Welch/Student t-test, F-test, and χ^2 tests on proportions
- manipulate mathematical expressions involving matrices and vectors
- apply linear systems of equations, including linear regression, using matrix algebra
- Describe research results by means of statistics

Advised preparation materials for the entry test:
- Calculus: https://www.edx.org/course/pre-university-calculus-delftx-calc001x-2
- Statistics: https://stepik.org/course/701/
- Linear Algebra: Khan Academy – Math – Linear Algebra https://www.khanacademy.org/math/linear-algebra
- Syllabus Data science o as used in the preparatory course will be offered by the admission committee.

5.1.4. Biology knowledge and skills

Applicants should have basic knowledge regarding biology. Applicant must understand the concepts of the central dogma of biology. In addition, applicants must understand the concepts of molecular biology, genetics, genomics as well as the techniques and technologies used in this area.

Required knowledge:
Knowledge and understanding about:
- DNA as carrier of genetic information.
- Concept of genes, gene regulation and inheritance of genetic information.
- Replication, transcription and translation.
- Basic cell biology. Differences between prokaryotic and eukaryotic cells.
- Phylogenetics and alignments of biological sequences.

- DNA technology: cloning, genetic engineering, sequencing.

Preparation of entry test, if required, can be done by studying Biology
A Global Approach, 11th Global Edition by Campbell *et al*. Chapters:
C5: Biological Macromolecules and Lipids
C7: Cell Structure and Function
C12: Mitosis
C13: Sexual Life and Meiosis
C14: Mendelian Genetics
C16: Nucleic acids and Inheritance
C17: Expression of Genes
C18: Control of Gene Expression
C19: DNA Technology
C20: The Evolution of Genomes
C22: Phylogenetic Reconstruction

5.2 Language requirements for admission to program taught in English

All applicants must have a minimum level of English before starting with the Master DSLS.

The passing requirements are outlined below:
- Speaking and writing test provided by the Institute of Life Sciences and Technology, with a minimum CEFR level of B2; or
- IELTS test, the required score is 6.5, with no sub scores below 6; or
- Cambridge Advanced Exam in English: B minimum; or
- Cambridge Proficiency Exam in English: C minimum.

Students holding an International or European Baccalaureate are also exempted, as are students with a previous qualification issued in the United States of America, Canada, Australia, New Zealand, Great Britain or Ireland. Finally, the exemption applies to students who hold a previous qualification issued outside the EEA if they can submit a statement from the educational institution where they took the course testifying that it was taught in English. The Dean may obtain advice from the NUFFIC in such cases.

Applicants that do not meet the requirements are obligated to follow a deficiency course.

5.3 Foreign Students: Legal Residence Requirement

The student must have valid residency status which enables them to study in the Netherlands.
Students can contact the International Student Office for further information.

6. Examinations

6.1 Sequence of Examinations

Examinations are listed in the curriculum component table (par. 3.2).

6.2 Number of Examination Resits (outside of written examinations)

If a student did not obtain a sufficient score for an assessment, a resit will be provided.

6.3 Anti-Plagiarism Rules

In accordance with article 5.6 of the Students' Charter, the written papers that lend themselves to this are checked for fraud through plagiarism scanners. Fraud is defined as (see for additional information the link Student Charter article 5.6.2): taking over someone else's work and "passing it off as" their own work. The Examining Board can take measures if fraud is detected.

7 Compulsory Attendance

Attendance at lectures, workshops and other educational activities is strongly advised but never strictly required, unless otherwise stated (in the student manual) by the lecturer at the start of the module.

8 Mentoring

Development of students to become creative and critical research professionals starts at the beginning of the master and continues throughout the program. Mentoring during semester 1 and 2 is an important element in coaching students' development. Independent monitoring of learning is expected of master students; hence the degree of guidance is gradually reduced.

9 Cum Laude Regulations

For students of Hanze UAS Groningen it is possible to graduate with the predicate cum laude. For additional information, see the link Student Statute, article 4.13.

10 Own contribution from students

An important principle of education policy is accessibility. Enrollment for a program may not be made dependent on other financial contributions than the tuition fees (Article 7.50, first paragraph, of the WHW). The student is entitled to provisions after enrollment (Section 7.34 of the WHW). This includes, among other things, following education, taking interim examinations, access to buildings and collections and making use of student facilities and student counseling. No additional contributions from students may be required for such facilities. In table 3, below, is an overview of all contributions for the students in this program.

Table 3 Break down costs in this program

Books and educational supplies	Institute year 1: 410 euros
Digital resources	Basic laptop about 300 euro's is advisable. There are no specific requirements for a laptop as long as it is linux compatible.

11 General information about rights and obligations

General rights and duties applicable to all students are included in the Student Charter. Think of general rules about tuition fees, generally applicable rules for examinations and provisions for students, the complaints procedure and the regulations on undesirable behavior.

The Student Charter also states in Chapter 10 (Legal protection) what the student must do if he/she does not agree with a decision of the Examination Committee or a decision of the dean.

Appendix Examination regulation

Examination Regulations for master's degree program at Hanze UAS of Applied Sciences Groningen

Article 4a.1 General Provisions

4a.1.1 These Examination Regulations in conjunction with the Teaching Regulations form the Teaching and Examination Regulations for the master's degree program taught at Hanze UAS.

4a.1.2 In these Examination Regulations, 'examination' means an assessment of a student's knowledge, understanding and/or skills. An examination can be in the form of a written, oral or computer examination, a practical, a practice-based examination or competence assessment, an individual or group (project) assignment or any other form of assessment approved by the Examining Board. Students are assessed individually, also where it concerns group assignments. Examinations may also be referred to as tests.

4a.1.3 For the purposes of these Regulations, a written request or a written communication has the same status as a request or communication made by electronic means.

4a.1.4 Where these Examination Regulations refer to credits, European Credits are meant. One European Credit (ECTS) is equivalent to 28 hours of study.

4a.1.5 If any serious inequity arises in the application of these Examination Regulations, the Examining Board may depart from these regulations as it they see fit.

4a.1.6 In cases which are not covered by the Examination Regulations or the Examination Protocol, the Examining Board decides.

Article 4a.2 Educational Program

4a.2.1 The academic program, the organisation of teaching and the annual planning of the master's degree program is set out in the Teaching Regulations.

4a.2.2 Curricula are divided into units of study. The workload of a unit of study is expressed as credits/ECTS in whole numbers. The workload of the entire master's degree program is specified in the Teaching Regulations.

4a.2.3 The units of study comprised in the master's degree program are stated in a curriculum overview which forms part of the Teaching Regulations. The number of credits assigned to the various units of study in the curriculum overview correspond to the workload established for the units of study.

4a.2.4 Any prerequisites that may apply to a unit of study are specified in the Teaching Regulations.

Article 4a.3 Teaching Regulations

4a.3.1 The Teaching Regulations describe the contents of the master's degree program and the units of study which it is comprised of. The Teaching Regulations also include a description of the competencies relating to knowledge, understanding and skills that the student must have achieved on completion of the master's degree program.

4a.3.2 The Teaching Regulations describe any practical assignments that are part of the program.
4a.3.3 The Teaching Regulations state the number and the order in time of examinations, and at what times they can be taken. They also state whether examinations will be taken orally, in writing or in another way, and whether oral examinations are open to public attendance, all subject to the Examining Board's power to determine otherwise in special cases.
4a.3.4 The Teaching Regulations describe how students with a physical or sensory disability can reasonably be given the opportunity to sit examinations.

Article 4a.4 Final Examinations

A student has passed the final examination if he/she has passed all the particular examinations of the units of study belonging to the master's degree program.

Article 4a.5 Examinations

4a.5.1 Each unit of study has one or more examinations attached to it. For each study period the Teaching Regulations stipulate the maximum number of examinations that may be administered in that period.
4a.5.2 After a student has passed an examination, the examination result is recorded and credits are awarded. No compensation between examination results is possible. If a unit of study has more than one examination attached to it, the student must pass all the examinations to complete the unit successfully. The Dean may lay down in the Teaching Regulations that students forfeit their examination results if they do not pass all the examinations attached to the unit by the end of the academic year. The Dean will give an explanation of the educational reasons.
4a.5.3 The Teaching Regulations may stipulate that students have to sign up for examinations.

Article 4a.6 Term of validity

4a.6.1 Final examinations and the results of individual examinations remain valid indefinitely.
4a.6.2 With respect to students who have been enrolled in a master's degree program without interruption, no limitations can be set to the term of validity of credits awarded or exemptions granted, unless the student's period of enrolment exceeds the nominal length of study plus one year.
4a.6.3 Notwithstanding the provisions of the preceding paragraph, with respect to students who have been enrolled in the Architecture master's degree program without interruption, no limitations can be set to the term of validity of credits awarded or exemptions granted unless their period of enrolment exceeds the nominal length of study plus two years.

Article 4a.7 Examination results

4a.7.1 Examinations are graded by the examiner(s) who administered the examination. If an examination is graded by more than one examiner, the examiners decide on the grade in consultation. The Examining Board shall draw up guidelines for grading if two or more examiners are involved; these guidelines may include rules for the appointment of a third examiner (why/when and how).

4a.7.2 Examinations are graded and the results announced to students as soon as possible, but no later than twenty days after the examination was held, and no later than five working days before any resit examination. The result of an oral examination is announced on the same day as the examination was held, unless the Examining Board stipulates otherwise.

4a.7.3 Examination results may be announced by electronic means.

4a.7.4 The result of an examination is expressed as a number between 1 and 10 with no more than one decimal after the point, or as a 'pass' or 'fail'. A grade of 5.5 or higher is deemed a pass; a grade below 5.5 is deemed a fail. Participation in an examination is awarded a minimum grade of a 1 or a fail.

Article 4a.8 Viewing Examination Papers

4a.8.1 The Examining Board ensures that students have the opportunity of viewing their examination papers within twenty-five working days of the last day of the study period, or no later than five days before the resit, if a resit is offered. Students may only view their examination papers in the presence of the examiner or their deputy. Students are also given the opportunity to take cognizance of the exam questions and the assessment standards.

4a.8.2 The provisions of the preceding paragraph do not apply if the way in which the course is organised makes it impossible to follow the normal procedure. In such a case, the Examining Board shall offer an alternative arrangement for viewing the papers, such that the student can view the examination papers no later than five working days before the resit, if a resit is offered. This procedure must be included in the Teaching Regulations.

4a.8.3 Viewing or taking cognizance of examination papers takes place at a predetermined place and time.

4a.8.4 The Examining Board may set further rules such as a prohibition to carry switched-on photographic or recording equipment during the viewing. Violation of these rules will be considered an irregularity as referred to in Article 5.6.

Article 4a.9 Resit Examinations

4a.9.1 If a student retakes an examination, the highest result achieved is recorded.

4a.9.2 Written examinations can be retaken at least once in any academic year.

4a.9.3 Examinations other than those referred to in paragraph 10.2 can be resat in the manner described in the Teaching Regulations for the relevant unit of study.

4a.9.4 If it is decided during an academic year that a certain unit of study, or part of it, will no longer be offered in the following years or will be substantially revised, then the students concerned will be given at least one extra opportunity to take the relevant examination(s) before the end of the academic year after which the new arrangement comes into force. Such resit opportunities are announced at least three months before the resit.

Article 4a.10 Exemptions

4a10.1 The Examining Board may, on a student's written application, grant the student exemption from one or more examinations on the grounds of a competence assessment or because the student possesses a certificate, diploma or other document which proves that they have complied with the requirements of the examination(s) in question. The application may also be submitted electronically. The Teaching Regulations may include regulations regarding procedures for applying for exemptions.

4a10.2 If an Examining Board grants the exemption requested, it sends the applicant a certificate of exemption within four weeks of the day that the application was received. This certificate must state the date on which the exemption was granted and the examination(s) which the exemption applies to. It must be signed by the Chair of the Examining Board.

4a10.3 The Examining Board has the power to grant exemption from the obligation to participate in practical exercises and may impose other requirements instead.

4a10.4 The Teaching Regulations may stipulate that, with regard to the units of study referred to in the regulations, no exemption can be granted for taking the examinations in these units of study.

Article 4a.10a Provision of Degrees

4a10a.1 Students who have successfully passed the final examination of a master's degree program are granted the degree of master by the Dean. The Executive Board may authorise an officer other than the Dean to award the degree.

4a10a.2 A student to whom a degree has been granted pursuant to Article 4a.10a.1 is entitled to add the title associated with the degree to their name.

Article 4a.11 Diploma

4a11.1 When a student has passed all the examinations of the units of study of a master's degree program, the Examining Board confirms that the student has successfully passed the final examination. It awards the associated diploma as soon as the Dean has declared that all the procedural requirements for awarding the diploma have been complied with. The diploma is drawn up in the language in which the course was taught, as determined by the Executive Board.

4a11.2 The diploma awarded for passing the final examination must always state:

- the name of the degree program;
- the examination subjects;
- the qualifications attached to the diploma, if applicable;
- the degree awarded;
- the latest accreditation period of the study program;
- if applicable: the successful completion of an Honours Talent Program;
- if applicable: the designation 'cum laude', as referred to in article 4a.12 below.

4a11.3 The diploma is accompanied by a list of grades and a diploma supplement. The diploma supplement is drawn up in the English language.

4a11.4 At the student's request for a charge, the Student Administration provides extra copies of the diploma supplement including a transcript of records, and a certified copy of the diploma.

Article 4a.12 Cum laude

4a.12.1 The Examining Board may award a student the classification 'cum laude' if the student's overall achievement meets the following requirements:

a. No more than one-third of the total number of the examination credits have been obtained in the form of exemptions;
b. All units of study have been completed within the nominal length of time;
c. The student has made no more than two attempts at any examination;
d. Where a numerical scheme is applied, the average of all results is at least 8.0, no grade is below 7.0 and the student has completed their studies within the normal length of time.

The average referred to in the preceding paragraph under (d) is calculated according to a Weighted Grade Average system, where the weighting factor used in calculating the weighted average is the number of ECTS credits which the unit of study represents.

4a.12.2 Without prejudice to the provisions of the preceding paragraph, the Teaching Regulations may stipulate that the result achieved for a certain unit of study must be at least an 8.0.

4a.12.3 A student against whom the Examining Board has taken a measure which deprived him or her of the right to take one or more examinations at Hanze UAS, is not entitled to the classification 'cum laude'.

4a.12.4 In special cases, the Examining Board may grant exemption from the provisions of the first paragraph under (b) and/or (c).

Article 4a.13 Legal protection (See also Chapter 10, Legal Protection)

Students can appeal decisions regarding the implementation of the Examinations Protocol to the Student Appeals Board.