

Teaching and Examination Regulations

MASTER's Degree Programme

Drug Discovery and Safety

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Academic year 2017-2018

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Section B: Programme-specific section

1. General provisions

Article 1.1 Definitions Not applicable

Article 1.2 Degree programme information

- 1. The programme Drug Discovery & Safety CROHO number 66989 is offered on a full-time basis and the language of instruction is English.
- 2. The programme has a workload of 120 EC.
- 3. A unit of study comprises 6 EC or a multiple thereof. The units of study listed below have a different size:

Course code	Course components	EC
AM_1180	Clinical Development and Clinical Trials	3
O_MFDIDAC_3	Didactiek 3	9
O_MLDIDAC_3	Didactiek 3	9
AM_1179	Epidemiology	3
XM_432517	Ethics and Academic Skills	3
AM_470707	Ethics in life sciences	3
O_MFPRAK_2	Praktijk 2	9
O_MLPRAK_2	Praktijk 2	9
O_MFPROZ_1	Praktijkonderzoek 1	3
O_MLPROZ_1	Praktijkonderzoek 1	3
X_400592	Scientific Writing in English	3
XM_432741	Teaching Assistant	3
X_432625	Tutoring Students	3

Article 1.3 Intake dates

The programme is offered starting in the first semester of the academic year (1 September) and starting in the second semester (1 February).

2. Programme objectives and exit qualifications

Article 2.1 Programme objective

The programme aims to acquire sufficient knowledge, skills and insight within the field of Drug Discovery & Safety, and any related disciplines, to be able to operate as an independent professional at an academic level, and to be a suitable candidate for a subsequent course of study leading to a career in research or development. Another aim of the programme is to develop students' understanding of the interrelationships between academic disciplines, as well as their sense of social responsibility.

Article 2.2 Exit qualifications

A. The Master of Science in Drug Discovery & Safety

- has a sound theoretical and practical understanding of the modern pharmaceutical sciences (including the requisite knowledge of other disciplines)
- has a thorough knowledge of theoretical and experimental methods, as well as research experience in at least one sub-field of pharmaceutical sciences
- is capable, within a reasonable period of time, of becoming conversant in other sub-fields of the discipline
- is capable of formulating a work plan for research within the pharmaceutical sciences, on the basis of a realistic research question
- is capable of analysing and formulating research results, and of drawing conclusions from them
- is capable of writing a report or an academic paper for publication in an international journal, and of participating in a discussion on a topic related to the field of study in question
- is capable of studying the professional literature (including international publications) in relevant sub-fields, and of making use of the discussions and results found there
- is capable of applying knowledge of the pharmaceutical sciences within a wider, multidisciplinary context
- is capable of dealing with the safety and environmental aspects of the pharmaceutical sciences
- is capable of taking on posts for which knowledge and research skills in the field of the pharmaceutical sciences are required
- has sufficient knowledge of and insight into the social role of the pharmaceutical sciences to decide on a responsible choice of profession and professional practice
- is capable of cooperating with others, of imparting knowledge to others, and of delivering a lecture both to specialists and to a wider audience

B. The Master's programme in Drug Discovery & Safety has four variants: a research variant (R variant), a communication variant (C variant), an education variant (E variant), and a social variant (S variant). The specific final attainment levels that relate to these variants are:

R-variant

The graduate:

- is capable of independently designing, conducting and assessing experiments and the associated controls within a given period of time;
- is capable of contextualizing the results and conclusions obtained, within the framework of results obtained by others;
- is capable of formulating a perspective on the development of scientific research within the field in question;
- is capable of quantitatively and qualitatively analysing chemical processes, of entering the data into existing models (or models yet to be developed), and of presenting the results at various levels of abstraction;
- must possess insight into the role of the pharmaceutical sciences in a sustainable society.

C variant

The graduate can:

- independently acquire new knowledge of the subject in the area of communication and can apply this in appropriate professional situations;
- impart any knowledge and insights obtained, verbally and in writing to wider audiences.

E variant

The graduate can:

- independently acquire new knowledge of the subject in the area of education, and can apply this in appropriate professional situations;
- impart any knowledge and insights obtained, verbally and in writing in appropriate educational settings.

S variant

The graduate can:

- develop a perspective on the contributions that scientific knowledge and methods can potentially make to social problems related to the field in question;
- distil a research question from this perspective that is geared towards solutions;
- implement such questions in the form of targeted research;
- interpret and present data obtained from analyses conducted at different scales and different levels of abstraction;
- cooperate with others in the context of a multidisciplinary project team.

The programme emphasizes:

- the student's personal development;
- promoting the student's sense of social responsibility;

promoting the student's communication skills and academic literacy in Dutch or in English.

3. Further admission requirements

Article 3.1 Admission requirements

- 1. Applicants will be admitted to the degree programme if they hold a letter of acceptance, issued by or on behalf of the Faculty Board because they have demonstrated that they meet the knowledge, understanding and skills requirements of the final level of attainment in a university Bachelor's degree programme.
- 2. Prior education requirements:
 - a Bachelor's degree in Pharmaceutical Sciences from a Dutch university;
 - a Bachelor's degree in Chemistry from a Dutch university;
 - a Bachelor's degree in Medical Natural Sciences, provided it meets the prior education requirements, to be assessed by the Examination Board (any deficiencies will need to be addressed prior to or during the Master's programme);
 - a Bachelor's degree from a relevant programme at a university of applied sciences (HBO), provided it meets the prior education requirements, to be assessed by the Examination Board (any deficiencies will need to be addressed prior to or during the Master's programme);
 - a Bachelor's degree in Pharmaceutical Sciences or equivalent from a foreign university, provided it meets the prior education requirements, to be assessed by the Examination Board (any deficiencies will need to be addressed prior to or during the Master's programme);
 - a command of English equivalent to final-examination university entry level (VWO level under the Dutch school system).
- Because the degree programme consists of distinct specializations, the Examination Board will
 assess whether the applicant has met the applicable requirements for a specific specialisation.
 The Examination Board relies for this assessment on the evaluation by the master coordinators of
 the specialisations.
- 4. Those not yet in possession of a Bachelor's degree, but who meet the admission requirements as regards the knowledge, insight and skills specified in paragraph 2, may on request be granted conditional admission to the associated Master's programme, insofar as failure to grant admission would result in undue unfairness.

5. The letter of acceptance relates exclusively to the academic year following the academic year in which the application for the letter of acceptance was submitted, unless the Executive Board decides otherwise.

Article 3.2 Pre-Master's programme Not applicable

Article 3.3 Limited programme capacity Not applicable

Article 3.4 Final deadline for registration

A candidate must submit a request to be admitted to the programme through Studielink before 1 June in the case of Dutch students, before 1 April in the case of EU students and before 1 February in the case of non-EU students. Under exceptional circumstances, the Examinations Board may consider a request submitted after this closing date.

Article 3.5 English language requirement for English-language Master's programmes

The proficiency requirement in English as the language of instruction can be met by the successful completion of one of the following examinations or an equivalent:

- IELTS: 6.5

1.

- TOEFL paper based test: 580
- TOEFL internet based test: 92-93
- Cambridge Advanced English: A, B or C.
- 2. An exemption from the English language proficiency requirement in paragraph 1 will be granted to those who have passed the final Dutch secondary school examination in English at pre-university level (VWO) and those who, no more than two years prior to commencement of the programme:

- met the requirements of the VU test in English language proficiency TOEFL ITP, with at least the scores specified in paragraph 1, or

- had previous education in secondary or tertiary education in an English-speaking country as listed on the VU website, or

- have an English-language 'international baccalaureate' diploma

Article 3.6 Free curriculum

- 1. Subject to the conditions described under 2 and 3, the student has the option of compiling a curriculum of his/her own choice which deviates from the curricula prescribed by the programme.
- 2. The concrete details of such a curriculum must be approved beforehand by the most appropriate Examinations Board.
- 3. The free curriculum is put together by the student from the units of study offered by Vrije Universiteit Amsterdam or another institution of higher education and must at least have the size, breadth and depth of a regular Master's programme.

4. Curriculum structure

Article 4.1 Composition of programme

- 1. The programme consists of the following components:
 - a. compulsory units of study
 - b. practical exercise
 - c. electives / major
- 1. Notwithstanding the provisions of paragraph 1, students may compose their own Master's programme under certain circumstances and with the prior approval of the Examination Board.
- 2. The degree programme has a study load of 120 credits. One credit is equivalent to 28 hours of study.
- 3. Students must submit details of each programme to the programme's Examination Board for approval.
- 4. The Master's programme in DDS offers the following tracks:
 - Computational Medicinal Chemistry and Toxicology
 - Drug Disposition and Safety Assessment
 - Drug Discovery and Target Finding
 - Drug Design and Synthesis

- Biomarkers and Clinical Analysis
- 5. Students may start on a minor or major research project, go on in-company training or start an internship once 18 credits of the programme have been completed including 'Research skills and career perspectives'
- 6. The Examination Board may, in consultation with the Master's Programme Coordinator, require that a specific subject must be included in the 18 credits referred to in Article 4.1.5.

Variants

The Master programme Drug Discovery and Safety offers four different variants for graduation:

- Research variant (O-variant)
- Society oriented variant for natural and life sciences (M-variant)
- Communication variant (C-variant)
- Education variant (E-variant)

Global Composition of Master Programme

Variant	ο	М	С	Е
Compulsory courses	36-42*	30	30	30
Research project (Major) including report	42	24	24	24
Colloquium and Thesis	12	6	6	6
Practical training (company training)	-	30	30	-
M or C projects	-	18	12	-
Educational training	-	_	-	60
Optional programme	24-30*	12	18	-
Ethics and portfolio academic skills	6	_	-	-
Total EC	120	120	120	120

Ad *) Depends on the specialization: Biomarkers & Clinical Analysis requires 42 EC compulsory courses with 24 EC optional

programme, other specializations require 36 EC compulsory courses with 30 EC optional programme.

The programme which is specific for the S-C-E variants consists of 60 EC. Students combine this with 60 EC of the research programme (research project, literature study and the general compulsory courses) in order to meet the general requirements of the Master's programme.

Regarding the Education variant:

Students who have completed an *Educatieve* Minor of 30 EC during their Bachelor's programme may submit a non-standard study programme for approval to the Examinations Board, after discussing this non-standard study programme with the coordinator of the Education variant and the coordinator of the Master's programme.

Article 4.2 Compulsory units of study

Abbreviations of teaching method and examination format are defined in Article 1.1.

The compulsory units of study are:

Communication Va	ariant es (12 EC required)			
Course code	Course component	EC	Period	Level
AM_1182	Research methods for analyzing problems	6	1	400
AM 470587	Science and Communication	6	1	500
XM_0002	Research skills and career perspectives	0	1,2,3	400
XIVI_0002	Research skills and career perspectives	0	1,2,3	400
Education Variant				
	Scheikunde (60 EC required)		- · ·	
Course code	Course component	EC	Period 1+2+3,	Level
O_MLPEERGR_1	Peergroup 1		4+5+6	400
O_MLDIDAC_1	Didactiek 1	6	1	400
O_MLPRAK_1	Praktijk 1	6	1	400
O_MLPROZ_1	Praktijkonderzoek 1	3	3	400
O_MFDIDAC_1	Didactiek 1	6	4	400
O_MFPRAK_1	Praktijk 1	6	4	400
O_MLDIDAC_2	Didactiek 2	6	2+3	400
O_MLPRAK_2	Praktijk 2	9	2+3	400
O_MFDIDAC_3	Didactiek 3	9	1+2+3	
O_MFPRAK_3	Praktijk 3	15	1+2+3	400
O_MFPROZ_1	Praktijkonderzoek 1	3	6	
O_MFPROZ_2	Praktijkonderzoek 2	6	1+2+3	
O_MFDIDAC_2	Didactiek 2	6	5+6	400
O_MFPRAK_2	Praktijk 2	9	5+6	400
O_MLPEERGR_2	Peergroup 2	_	3+4+5	
O_MLDIDAC_3	Didactiek 3	9	4+5+6	400
O_MLPRAK_3	Praktijk 3	15	4+5+6	400
O_MLPROZ_2	Praktijkonderzoek 2	6	4+5+6	400
XM_0002	Research skills and career perspectives	0	1,2,3	400
Research Variant I				
	es (24 EC required)			
Course code	Course component	EC	Period	Level
XM_432574	Colloq. and Liter. Thesis DDS MC, DDTF	12	Ac. Year	600
X_435047	High-Throughput Screening	6	2	500
X_432535	Signal Transd. in Health and Disease	6	2	600
Compulsory cours	es research master DDS (24 EC required)			
Course code	Course component	EC	Period	Level
X_432721	ADMET	6	1	400
X_432538	Chemical Biology	6	1	400
X_432724	Drug Action	6	3	400
X_432734	Project Computational Design and Synthes	6	4	400
XM_0002	Research skills and career perspectives	0	1,2,3	400
Research Variant I	DDSA			
Compulsory cours	es (24 EC required)			
Course code	Course component	EC	Period	Level
XM_432575	Literature thesis and Coll. DDS MT, DDSA	12	Ac. Year	600
X_432536	Drug-induced Stress and Cellular Respons	6	2	500
X_435681	Advanced Course on DDSA	6	5+6	500
Compulsory cours	es research master DDS (24 EC required)			
Course code	Course component	EC	Period	Level
X_432721	ADMET	6	1	400
X_432538	Chemical Biology	6	1	400
X_432724	Drug Action	6	3	400
X_432734	Project Computational Design and Synthes	6	4	400

-				
XM_0002	Research skills and career perspectives	0	1,2,3	400
Research Variant				
Compulsory cours	ses (24 EC required)			
Course code	Course component	EC	Period	Level
X_432673	CompAided Drug Design and Virtual Scr.	6	2	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	400
XM_432576	Colloq. and Liter. Thesis DDS MC, CMCT	12	Ac. Year	600
Compulsory cours	ses research master DDS (24 EC required)			
Course code	Course component	EC	Period	Level
X_432721	ADMET	6	1	400
X_432538	Chemical Biology	6	1	400
X_432724	Drug Action	6	3	400
X_432734	Project Computational Design and Synthes	6	4	400
XM_0002	Research skills and career perspectives	0	1,2,3	400
Research Variant				
Compulsory cours	ses (24 EC required)			
Course code	Course component	EC	Period	Level
X_435663	Physical-Organic Chemistry	6	1	400
X_435685	Synthetic Approaches in Med. Chemistry	6	2	500
XM_432573	Literature thesis and Coll. DDS MC, DD&S	12	Ac. Year	600
Compulsory cours	ses research master DDS (24 EC required)			
Course code	Course component	EC	Period	Level
X_432721	ADMET	6	1	400
X_432538	Chemical Biology	6	1	400
X_432724	Drug Action	6	3	400
X_432734	Project Computational Design and Synthes	6	4	400
XM_0002	Research skills and career perspectives	0	1,2,3	400
Research Variant	Biomarkers and C.C.A.			
Compulsory cours	ses (18 EC required)			
Course code	Course component	EC	Period	Level
XM_432577	Literature thesis and Coll. DDS BDA	12	Ac. Year	600
X_432765	Bio-analysis & Clinical Diagnostics	6	1	400
Compulsory cours	ses research master DDS (24 EC required)			
Course code	Course component	EC	Period	Level
X_432721	ADMET	6	1	400
X_432538	Chemical Biology	6	1	400
X_432724	Drug Action	6	3	400
X_432734	Project Computational Design and Synthes	6	4	400
XM_0002	Research skills and career perspectives	0	1,2,3	400
Social Variant				
	ses (48 EC rquired)			
Course code	Course component	EC	Period	Level
AM_471147	Internship Societal Specialisation	30	Ac. Year	600
AM_470571	Analysis of Governmental Policy	6	1	500
AM_1182	Research methods for analyzing problems	6	1	400
AM_470572	Communication, Org. and Management	6	2	500
XM_0002	Research skills and career perspectives	0	1,2,3	400

Article 4.3 Practical exercise

Except for those practical components incorporated in the compulsory units of study above and in relevant electives, the programme has no separate practical exercise.

The student can take of the following electives:

Communication V	ariant			
Specialisation cou	urses (30 EC required)			
Course code	Course component	EC	Period	Level
X_432721	ADMET	6	1	400
X_432538	Chemical Biology	6	1	400
X_435663	Physical-Organic Chemistry	6	1	400
X_432673	CompAided Drug Design and Virtual Scr.	6	2	400
X 432536	Drug-induced Stress and Cellular Respons	6	2	500
	Mass Spectrometry	6	2	400
X_432535	Signal Transd. in Health and Disease	6	2	600
X 435685	Synthetic Approaches in Med. Chemistry	6	2	500
X_432724	Drug Action	6	3	400
X_432734	Project Computational Design and Synthes	6	4	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	400
X_402004	Biomolecular Cimulation in Moder	0	010	400
Literature and Col	lloquium (compulsory choice 1 of 5 - 6 EC red	quired)		
Course code	Course component	EC	Period	Level
XM_432572	Lit. thesis and Coll. DDS MT, DD&SA	6	Ac. Year	600
XM_432570	Literature thesis and Coll. DDS BDA	6	Ac. Year	600
XM_432623	Literature thesis and Coll. DDS MC, DD&S	6	Ac. Year	600
XM 432624	Literature thesis and Coll. DDS MC, DDTF	6	Ac. Year	600
XM_432571	Literature thesis and Coll. DDS MT, CMCT	6	Ac. Year	600
		-		
DDS Research Pro	oject (choose 1 of 5 - 24 EC required)			
Course code	Course component	EC	Period	Level
XM_432727	Major Research Project DDS Biomolecular A	24	Ac. Year	600
XM_432728	Major Research Project DDS Medicinal Che	24	Ac. Year	600
XM_432729	Major Research Project DDS Medicinal Che	24	Ac. Year	600
XM_432730	Major Research Project DDS Molecular Tox	24	Ac. Year	600
XM_432731	Major Research Project DDS Molecular Tox	24	Ac. Year	600
	· · · · · · · · · · · · · · · · · · ·			
Deficiency Course	es			
Course code	Course component	EC	Period	Level
X 435675	Principles of Pharmaceutical Sc./ PharCH	6	1	400
		-		
Internship commu	inication: choose one (30 EC required)			
Course code	Course component	EC	Period	Level
AM_1163	Reflective Practice Int. SC. Comm.	30	Ac. Year	600
AM_1162	Research Internship Science Comm.	30	Ac. Year	600
Recommended ch	noice			
Course code	Course component	EC	Period	Level
AM_470572	Communication, Org. and Management	6	2	500
AM_1002	Science in Dialogue	6	2	500
AM_471014	Science Journalism	6	2	500
AM_470590	Science Museology	6	3	500

Education Variant

Course code	Course component	EC	Period	Level
X_432721	ADMET	6	1	400
X_432538	Chemical Biology	6	1	400
X_435663	Physical-Organic Chemistry	6	1	400
X_432673	CompAided Drug Design and Virtual Scr.	6	2	400
X_432536	Drug-induced Stress and Cellular Respons	6	2	500
X_435604	Mass Spectrometry	6	2	400
X_432535	Signal Transd. in Health and Disease	6	2	600
X_435685	Synthetic Approaches in Med. Chemistry	6	2	500

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X_432724	Drug Action	6	3	400
X 432734	Project Computational Design and Synthes	6	4	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	400
<u></u>		Ũ	0.0	100
Literature and Co	olloquium (compulsory choice 1 of 5 - 6 EC red	quired)	1	
Course code	Course component	EC	Period	Level
XM_432572	Lit. thesis and Coll. DDS MT, DD&SA	6	Ac. Year	600
XM_432570	Literature thesis and Coll. DDS BDA	6	Ac. Year	600
XM_432623	Literature thesis and Coll. DDS MC, DD&S	6	Ac. Year	600
XM_432624	Literature thesis and Coll. DDS MC, DDTF	6	Ac. Year	600
XM_432571	Literature thesis and Coll. DDS MT, CMCT	6	Ac. Year	600
DDS Research Pr	oject (choose 1 of 5 - 24 EC required)			
Course code	Course component	EC	Period	Level
XM_432727	Major Research Project DDS Biomolecular A	24	Ac. Year	600
XM_432728	Major Research Project DDS Medicinal Che	24	Ac. Year	600
XM_432729	Major Research Project DDS Medicinal Che	24	Ac. Year	600
XM_432730	Major Research Project DDS Molecular Tox	24	Ac. Year	600
XM_432731	Major Research Project DDS Molecular Tox	24	Ac. Year	600
Deficiency Cours	es			
Course code	Course component	EC	Period	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	400
Research Variant	DDTE			
	emic Skills (6 EC required)			
Course code	Course component	EC	Period	Level
XM_432517	Ethics and Academic Skills	3	Ac. Year	400
XM_437556	Ethics and Academic Skills	6	Ac. Year	400
XM_432741	Teaching Assistant	3	Ac. Year	400
XM_432742	Teaching Assistant	6	Ac. Year	400
AM_470586	Managing science and technology	6	1	600
AM_1182	Research methods for analyzing problems	6	1	400
AM_470587	Science and Communication	6	1	500
AM_470575	Societal entrepreneurship H&L sciences	6	1	500
AM_470584	Business management	6	2	500
AM_470572	Communication, Org. and Management	6	2	500
AM_1002	Science in Dialogue Science Journalism	6	2 2	500
AM_471014 X_432625	Tutoring Students	6 3	2	500 400
AM_1180	Clinical Development and Clinical Trials	3	2	400 500
AM_1179	Epidemiology	3	3	500
AM_470707	Ethics in life sciences	3	3	400
X_400592	Scientific Writing in English	3	2,6	400
	-			
Research Project	: (42 EC required)			
Course code	Course component	EC	Period	Level
XM_432547	Major Research Project DDS MC, DDTF	42	Ac. Year	600
XM_432550	Major Research Project DDS MC, DDTF	48	Ac. Year	600
XM_432551	Major Research Project DDS MC, DDTF	54	Ac. Year	600
XM_432552	Major Research Project DDS MC, DDTF	60	Ac. Year	600
Recommended o	ptional courses (24 EC required)			
Course code	Course component	EC	Period	Level
XMU_435653	Supramolecular Chemistry and Nanomat.	6	1	400
X_432673	CompAided Drug Design and Virtual Scr.	6	2	400
X 132536	Drug-induced Stress and Cellular Response	6	2	500

Drug-induced Stress and Cellular Respons

Mass Spectrometry

Applied Theoretical Chemistry

X_432536

X_435604

X_435612

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2

2

4

500

400

500

6

6

6

V 425666	Malagular Computational Chamistry	c	F	400
X_435666	Molecular Computational Chemistry	6	5	400
X_435045	Protein Analysis Advanced Course on DDSA	6 6	5	500 500
X_435681	Biomolecular Simulation in MC&T	6 6	5+6 5+6	500 400
X_432664		-		
XM_432501	Applied Theoretical Chemistry	12	Ac. Year Ac. Year	500
XM_432621		18	Ac. Year Ac. Year	500
XM_432747	Company Training DDS-DDTF	24	Ac. Year	500
XM_432752	Company Training DDS-DDTF	30	Ac. Year Ac. Year	500
XM_432836	Company Training DDS-DDTF	36	Ac. Year Ac. Year	500
XM_432678	Internship abroad DDS-DDTF	18 24	Ac. Year	500 500
XM_432757	Internship abroad DDS-DDTF			
XM_432762	Internship abroad DDS-DDTF	30	Ac. Year	500
XM_432840 XM_432705	Internship abroad DDS-DDTF	36 30	Ac. Year Ac. Year	500 500
-	Min Res Proj DDS Med.Chem.DD&S	30 24	Ac. Year	500 500
XM_432658	Minor Research Project DDS BDA		Ac. Year Ac. Year	
XM_432689 XM_432704	Minor Research Project DDS BDA Minor Research Project DDS BDA	18 30	Ac. Year	500 500
-	Minor Research Project DDS BDA	30 18	Ac. Year	500 500
XM_432692	•	24	Ac. Year	500 500
XM_432693 XM_432635	Minor Research Project DDS MC, DD&S Minor Research Project DDS MC, DDTF	24 24	Ac. Year	500 500
XM_432696	•	24 18	Ac. Year	500 500
XM_432706	Minor Research Project DDS MC, DDTF	30	Ac. Year	500 500
XM_432632	Minor Research Project DDS MC, DDTF Minor Research Project DDS MT, CMC&T	24	Ac. Year	500 500
XM_432707	Minor Research Project DDS MT, CMC&T	24 30	Ac. Year	500 500
XM_432507	Minor Research Project DDS MT, CMCa Minor Research Project DDS MT, CMCT	18	Ac. Year	500 500
XM_432591	Minor Research Project DDS MT, DD&SA	24	Ac. Year	500 500
XM_432591 XM_432592	Minor Research Project DDS MT, DD&SA	30	Ac. Year	500 500
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year	500 500
XIVI_432020	Willion Research Troject DDS WIT, DD&SA	10	Ac. Teal	500
Deficiency Cours	es			
Course code	Course component	EC	Period	Level
X_435675	Principles of Pharmaceutical Sc./ PharCh	6	1	400
Research Variant	DDSA			
Ethics and Acade	emic Skills (6 EC required)			
Course code	Course component	EC	Period	Level
XM_432517	Ethics and Academic Skills	3	Ac. Year	400
XM_437556	Ethics and Academic Skills	6	Ac. Year	400
XM_432741	Teaching Assistant	3	Ac. Year	400
XM_432742	Teaching Assistant	6	Ac. Year	400

X_400592Scientific Writing in EnglishAM_1180Clinical Development and Clinical TrialsAM_1179EpidemiologyAM_470707Ethics in life sciencesResearch Project (42 EC required)

Managing science and technology

Science and Communication

Business management

Science in Dialogue

Science Journalism

Tutoring Students

Research methods for analyzing problems

Societal entrepreneurship H&L sciences

Communication, Org. and Management

2, 6

EC	Period	Level
42	Ac. Year	600
48	Ac. Year	600
54	Ac. Year	600
60	Ac. Year	600
	42 48 54	42 Ac. Year 48 Ac. Year 54 Ac. Year

Recommended optional courses (24 EC required)

AM_470586

AM_1182

AM_470587

AM_470575

AM_470584

AM_470572

AM_471014

X_432625

AM_1002

Course code	Course component	EC	Period	Level
XMU_435653	Supramolecular Chemistry and Nanomat.	6	1	400
X_432673	CompAided Drug Design and Virtual Scr.	6	2	400
X_432535	Signal Transd. in Health and Disease	6	2	600
X_435612	Applied Theoretical Chemistry	6	4	500
X_435666	Molecular Computational Chemistry	6	5	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	400
XM_432501	Applied Theoretical Chemistry	12	Ac. Year	500
XM_432672	Company Training DDS-DD&SA	18	Ac. Year	500
XM_432746	Company Training DDS-DD&SA	24	Ac. Year	500
XM_432751	Company Training DDS-DD&SA	30	Ac. Year	500
XM_432834	Company Training DDS-DD&SA	36	Ac. Year	500
XM_432677	Internship abroad DDS-DDSA	18	Ac. Year	500
XM_432756	Internship abroad DDS-DDSA	24	Ac. Year	500
XM_432761	Internship abroad DDS-DDSA	30	Ac. Year	500
XM_432841	Internship abroad DDS-DDSA	36	Ac. Year	500
XM_432705	Min Res Proj DDS Med.Chem.DD&S	30	Ac. Year	500
XM_432658	Minor Research Project DDS BDA	24	Ac. Year	500
XM_432689	Minor Research Project DDS BDA	18	Ac. Year	500
XM_432704	Minor Research Project DDS BDA	30	Ac. Year	500
XM_432692	Minor Research Project DDS MC, DD&S	18	Ac. Year	500
XM_432693	Minor Research Project DDS MC, DD&S	24	Ac. Year	500
XM 432635	Minor Research Project DDS MC, DDG	24	Ac. Year	500 500
XM_432696	Minor Research Project DDS MC, DDTF	24 18	Ac. Year	500 500
—	Minor Research Project DDS MC, DDTF	30	Ac. Year	500 500
XM_432706	•	30 24	Ac. Year	500 500
XM_432632	Minor Research Project DDS MT, CMC&T			
XM_432707	Minor Research Project DDS MT, CMC&T	30	Ac. Year	500
XM_432507	Minor Research Project DDS MT, CMCT	18	Ac. Year	500
XM_432591	Minor Research Project DDS MT, DD&SA	24	Ac. Year	500
XM_432592	Minor Research Project DDS MT, DD&SA	30	Ac. Year	500
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year	500
Deficiency Cour	ses			
Course code	Course component	EC	Period	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	400
Research Variar				
	lemic Skills (6 EC required)			
Course code	Course component	EC	Period	Level
XM_432517	Ethics and Academic Skills	3	Ac. Year	400
XM_437556	Ethics and Academic Skills	6	Ac. Year	400
XM_432741	Teaching Assistant	3	Ac. Year	400
XM_432742	Teaching Assistant	6	Ac. Year	400
AM_470586	Managing science and technology	6	Ac. Tear	400 600
AM_1182	Research methods for analyzing problems	6	1	400
AM_1182 AM_470587	Science and Communication	6	1	400 500
AM_470575	Societal entrepreneurship H&L sciences	6	1	500 500
AM_470575 AM_470584	Business management	6 6	1 2	500 500
—	Communication, Org. and Management	о 6	2	500 500
AM_470572		-		
AM_1002	Science in Dialogue	6	2	500
AM_471014	Science Journalism	6	2	500 400
X_432625	Tutoring Students	3	2	400
X_400592	Scientific Writing in English	3 3	2,6	400
		· · · ·	3	500
AM_1180	Clinical Development and Clinical Trials			
AM_1180 AM_1179	Epidemiology	3	3	500
AM_1180				500 400
AM_1180 AM_1179 AM_470707	Epidemiology	3	3	
AM_1180 AM_1179 AM_470707	Epidemiology Ethics in life sciences	3	3	
AM_1180 AM_1179 AM_470707 Research Projec	Epidemiology Ethics in life sciences ct (42 EC required)	3 3	3 3	400

Major Research Project DDS MT, CMCT

Major Research Project DDS MT, CMCT

XM_432556

XM_432557

Ac. Year

Ac. Year

600

600

48

54

XM_432558	Major Research Project DDS MT, CMCT	60	Ac. Year	600
Recommended o	otional courses (24 EC required)			
Course code	Course component	EC	Period	Level
XMU_435653	Supramolecular Chemistry and Nanomat.	6	1	400
X_432536	Drug-induced Stress and Cellular Respons	6	2	500
X_432535	Signal Transd. in Health and Disease	6	2	600
X_435612	Applied Theoretical Chemistry	6	4	500
XM_435111	Density Functional Theory for Chemists	6	4	500
X_435666	Molecular Computational Chemistry	6	5	400
XM_432501	Applied Theoretical Chemistry	12	Ac. Year	500
XM_432619	Company Training DDS-CMCT	18	Ac. Year	500
XM_432744	Company Training DDS-CMCT	24	Ac. Year	500
XM_432749	Company Training DDS-CMCT	30	Ac. Year	500
XM_432835	Company Training DDS-CMCT	36	Ac. Year	500
XM_435112	Density Functional Theory for Chemists	12	Ac. Year	500
XM_432675	Internship abroad DDS-CMCT	18	Ac. Year	500
XM_432754	Internship abroad DDS-CMCT	24	Ac. Year	500
XM_432759	Internship abroad DDS-CMCT	30	Ac. Year	500
XM_432838	Internship abroad DDS-CMCT	36	Ac. Year	500
XM_432705	Min Res Proj DDS Med.Chem.DD&S	30	Ac. Year	500
XM_432658	Minor Research Project DDS BDA	24	Ac. Year	500
XM_432689	Minor Research Project DDS BDA	18	Ac. Year	500
XM_432704	Minor Research Project DDS BDA	30	Ac. Year	500
XM_432692	Minor Research Project DDS MC, DD&S	18	Ac. Year	500
XM_432693	Minor Research Project DDS MC, DD&S	24	Ac. Year	500
XM_432635	Minor Research Project DDS MC, DDTF	24	Ac. Year	500
XM_432696	Minor Research Project DDS MC, DDTF	18	Ac. Year	500
XM_432706	Minor Research Project DDS MC, DDTF	30	Ac. Year	500
XM_432632	Minor Research Project DDS MT, CMC&T	24	Ac. Year	500
XM_432707	Minor Research Project DDS MT, CMC&T	30	Ac. Year	500
XM_432507	Minor Research Project DDS MT, CMCT	18	Ac. Year	500
XM_432591	Minor Research Project DDS MT, DD&SA	24	Ac. Year	500
XM_432592	Minor Research Project DDS MT, DD&SA	30	Ac. Year	500
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year	500
Deficiency Course	es			
Course code	Course component	EC	Period	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	400

Research Variant DD&S

Research variant DD&S			
nic Skills (6 EC required)			
Course component	EC	Period	Level
Ethics and Academic Skills	3	Ac. Year	400
Ethics and Academic Skills	6	Ac. Year	400
Teaching Assistant	3	Ac. Year	400
Teaching Assistant	6	Ac. Year	400
Managing science and technology	6	1	600
Research methods for analyzing problems	6	1	400
Science and Communication	6	1	500
Societal entrepreneurship H&L sciences	6	1	500
Business management	6	2	500
Communication, Org. and Management	6	2	500
Science in Dialogue	6	2	500
Science Journalism	6	2	500
Tutoring Students	3	2	400
Scientific Writing in English	3	2, 6	400
Clinical Development and Clinical Trials	3	3	500
Epidemiology	3	3	500
Ethics in life sciences	3	3	400
	nic Skills (6 EC required) Course component Ethics and Academic Skills Ethics and Academic Skills Ethics and Academic Skills Teaching Assistant Teaching Assistant Managing science and technology Research methods for analyzing problems Science and Communication Societal entrepreneurship H&L sciences Business management Communication, Org. and Management Science in Dialogue Science Journalism Tutoring Students Scientific Writing in English Clinical Development and Clinical Trials Epidemiology	nic Skills (6 EC required)ECCourse componentECEthics and Academic Skills3Ethics and Academic Skills6Teaching Assistant3Teaching Assistant6Managing science and technology6Research methods for analyzing problems6Science and Communication6Societal entrepreneurship H&L sciences6Business management6Communication, Org. and Management6Science in Dialogue6Science Journalism6Tutoring Students3Scientific Writing in English3Clinical Development and Clinical Trials3Epidemiology3	nic Skills (6 EC required)ECPeriodCourse componentECPeriodEthics and Academic Skills3Ac. YearEthics and Academic Skills6Ac. YearTeaching Assistant3Ac. YearTeaching Assistant6Ac. YearTeaching Assistant6Ac. YearManaging science and technology61Research methods for analyzing problems61Science and Communication61Societal entrepreneurship H&L sciences61Business management62Communication, Org. and Management62Science in Dialogue62Science Journalism62Scientific Writing in English32, 6Clinical Development and Clinical Trials33Epidemiology33

Research Project (42 EC required)

Research Project (42 EG required)					
Course code	Course component	EC	Period	Level	
XM_432509	Major Research Project DDS MC, DD&S	42	Ac. Year	600	
XM_432544	Major Research Project DDS MC, DD&S	48	Ac. Year	600	
XM_432545	Major Research Project DDS MC, DD&S	54	Ac. Year	600	
XM_432546	Major Research Project DDS MC, DD&S	60	Ac. Year	600	
Recommended or	otional courses (24 EC required)				
Course code	Course component	EC	Period	Level	
X_432673	CompAided Drug Design and Virtual Scr.	6	2	400	
X_432536	Drug-induced Stress and Cellular Respons	6	2	500	
X_432535	Signal Transd. in Health and Disease	6	2	600	
X_435666	Molecular Computational Chemistry	6	5	400	
X_432664	Biomolecular Simulation in MC&T	6	5+6	400	
XM_432671	Company Training DDS-DD&S	18	Ac. Year	500	
XM_432745	Company Training DDS-DD&S	24	Ac. Year	500	
XM_432750	Company Training DDS-DD&S	30	Ac. Year	500	
XM_432833	Company Training DDS-DD&S	36	Ac. Year	500	
XM_432676	Internship abroad DDS-DD&S	18	Ac. Year	500	
XM_432755	Internship abroad DDS-DD&S	24	Ac. Year	500	
XM_432760	Internship abroad DDS-DD&S	30	Ac. Year	500	
XM_432839	Internship abroad DDS-DD&S	36	Ac. Year	500	
XM_432705	Min Res Proj DDS Med.Chem.DD&S	30	Ac. Year	500	
XM_432658	Minor Research Project DDS BDA	24	Ac. Year	500	
XM_432689	Minor Research Project DDS BDA	18	Ac. Year	500	
XM_432704	Minor Research Project DDS BDA	30	Ac. Year	500	
XM_432692	Minor Research Project DDS MC, DD&S	18	Ac. Year	500	
XM_432693	Minor Research Project DDS MC, DD&S	24	Ac. Year	500	
XM_432635	Minor Research Project DDS MC, DDTF	24	Ac. Year	500	
XM_432696	Minor Research Project DDS MC, DDTF	18	Ac. Year	500	
XM_432706	Minor Research Project DDS MC, DDTF	30	Ac. Year	500	
XM_432632	Minor Research Project DDS MT, CMC&T	24	Ac. Year	500	
XM_432707	Minor Research Project DDS MT, CMC&T	30	Ac. Year	500	
XM_432507	Minor Research Project DDS MT, CMCT	18	Ac. Year	500	
XM_432591	Minor Research Project DDS MT, DD&SA	24	Ac. Year	500	
XM_432592	Minor Research Project DDS MT, DD&SA	30	Ac. Year	500	
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year	500	

Research Variant Biomarkers and C.C.A.

Ethics and Academic Skills (6 EC required)				
Course code	Course component	EC	Period	Level
XM_432517	Ethics and Academic Skills	3	Ac. Year	400
XM_437556	Ethics and Academic Skills	6	Ac. Year	400
XM_432741	Teaching Assistant	3	Ac. Year	400
XM_432742	Teaching Assistant	6	Ac. Year	400
AM_470586	Managing science and technology	6	1	600
AM_1182	Research methods for analyzing problems	6	1	400
AM_470587	Science and Communication	6	1	500
AM_470575	Societal entrepreneurship H&L sciences	6	1	500
AM_470584	Business management	6	2	500
AM_470572	Communication, Org. and Management	6	2	500
AM_1002	Science in Dialogue	6	2	500
AM_471014	Science Journalism	6	2	500
X_432625	Tutoring Students	3	2	400
X_400592	Scientific Writing in English	3	2, 6	400
AM_1180	Clinical Development and Clinical Trials	3	3	500
AM_1179	Epidemiology	3	3	500
AM_470707	Ethics in life sciences	3	3	400
Course code	Course component	EC	Period	Level

		,	2017 2010	mee brug
X_435047	High-Throughput Screening	6	2	500
X_435604	Mass Spectrometry	6	2	400
X_435045	Protein Analysis	6	5	500
Compulsory Ch	oice Research Project (Major) including report	t (42 EC	required)	
Course code	Course component	EC	Period	Level
XM_432564	Major Research Project DDS BDA	42	Ac. Year	600
XM_432567	Major Research Project DDS BDA	48	Ac. Year	600
XM_432568	Major Research Project DDS BDA	54	Ac. Year	600
XM_432569	Major Research Project DDS BDA	60	Ac. Year	600
Recommended	optional courses (24 EC required)			
Course code	Course component	EC	Period	Level
XM_432670	Company Training DDS-BDA	18	Ac. Year	500
XM_432743	Company Training DDS-BDA	24	Ac. Year	500
XM_432748	Company Training DDS-BDA	30	Ac. Year	500
XM_432832	Company Training DDS-BDA	36	Ac. Year	500
XM_432674	Internship abroad DDS-BDA	18	Ac. Year	500
XM_432753	Internship abroad DDS-BDA	24	Ac. Year	500
XM_432758	Internship abroad DDS-BDA	30	Ac. Year	500
XM_432837	Internship abroad DDS-BDA	36	Ac. Year	500
XM_432705	Min Res Proj DDS Med.Chem.DD&S	30	Ac. Year	500
XM_432658	Minor Research Project DDS BDA	24	Ac. Year	500
XM_432689	Minor Research Project DDS BDA	18	Ac. Year	500
XM_432704	Minor Research Project DDS BDA	30	Ac. Year	500
XM_432692	Minor Research Project DDS MC, DD&S	18	Ac. Year	500
XM_432693	Minor Research Project DDS MC, DD&S	24	Ac. Year	500
XM_432635	Minor Research Project DDS MC, DDTF	24	Ac. Year	500
XM_432696	Minor Research Project DDS MC, DDTF	18	Ac. Year	500
XM_432706	Minor Research Project DDS MC, DDTF	30	Ac. Year	500
XM_432632	Minor Research Project DDS MT, CMC&T	24	Ac. Year	500
XM_432707	Minor Research Project DDS MT, CMC&T	30	Ac. Year	500
XM_432507	Minor Research Project DDS MT, CMCT	18	Ac. Year	500
XM_432591	Minor Research Project DDS MT, DD&SA	24	Ac. Year	500
XM_432592	Minor Research Project DDS MT, DD&SA	30	Ac. Year	500
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year	500
X_432673	CompAided Drug Design and Virtual Scr.	6	2	400
X_432536	Drug-induced Stress and Cellular Respons	6	2	500
X_432535	Signal Transd. in Health and Disease	6	2	600
X_435666	Molecular Computational Chemistry	6	5	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	400
Deficiency Cour	·ses			
Course code	Course component	EC	Period	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	400
Devile D				
Double Degree	to (18 EC required)			
-	es (18 EC required)	EC	Doried	
Course code	Course component	EC	Period	Level
XM_432689	Minor Research Project DDS BDA	18 19	Ac. Year	500
XM_432696	Minor Research Project DDS MC, DDTF	18 19	Ac. Year Ac. Year	500
XM_432507	Minor Research Project DDS MT, CMCT	18 19	Ac. Year Ac. Year	500
XM_432620	Minor Research Project DDS MT, DD&SA	18 6	Ac. Year 1	500 400
X_432765 X_435663	Bio-analysis & Clinical Diagnostics Physical-Organic Chemistry	6 6	1	400 400
X_432673	CompAided Drug Design and Virtual Scr.	6	2	400 400
X_432536	Drug-induced Stress and Cellular Respons	6	2	400 500
X_432535 X_432535	Signal Transd. in Health and Disease	6	2	600
X_432535 X_435685	Synthetic Approaches in Med. Chemistry	6	2	500 500
X_435681	Advanced Course on DDSA	6	2 5+6	500 500
X_432664	Biomolecular Simulation in MC&T	6	5+6 5+6	400
<u>. 10200</u> 4		0	0.0	100

Thesis Choice 1 d	out of 6 (12 EC required)			
Course code	Course component	EC	Period	Level
XM_432573	Literature thesis and Coll. DDS MC, DD&S	12	Ac. Year	600
XM_432574	Colloq. and Liter. Thesis DDS MC, DDTF	12	Ac. Year	600
XM_432575	Literature thesis and Coll. DDS MT, DDSA	12	Ac. Year	600
XM_432576	Colloq. and Liter. Thesis DDS MC, CMCT	12	Ac. Year	600
XM_432577	Literature thesis and Coll. DDS BDA	12	Ac. Year	600
Ethics and Acade	mic Skills (6 EC required)			
Course code	Course component	EC	Period	Level
XM_432517	Ethics and Academic Skills	3	Ac. Year	400
XM_437556	Ethics and Academic Skills	6	Ac. Year	400
XM_432741	Teaching Assistant	3	Ac. Year	400
XM_432742	Teaching Assistant	6	Ac. Year	400
AM_470586	Managing science and technology	6	1	600
AM_1182	Research methods for analyzing problems	6	1	400
AM_470587	Science and Communication	6	1	500
AM_470575	Societal entrepreneurship H&L sciences	6	1	500
AM_470584	Business management	6	2	500
AM_470572	Communication, Org. and Management	6	2	500
AM_1002	Science in Dialogue	6	2	500
AM_471014	Science Journalism	6	2	500
X_432625	Tutoring Students	3	2	400
X_400592	Scientific Writing in English	3	2, 6	400
AM_1180	Clinical Development and Clinical Trials	3	3	500
AM_1179	Epidemiology	3	3	500
AM_470707	Ethics in life sciences	3	3	400
Deficiency Cours	es			
Course code	Course component	EC	Period	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	400
Social Variant				
Specialisation courses (30 EC required)				
Course code	Course component	EC	Period	Level
X_432721	ADMET	6	1	400
X_432538	Chemical Biology	6	1	400
X_435663	Physical-Organic Chemistry	6	1	400

Chemical Biology	6	1	400	
Physical-Organic Chemistry	6	1	400	
CompAided Drug Design and Virtual Scr.	6	2	400	
Drug-induced Stress and Cellular Respons	6	2	500	
Mass Spectrometry	6	2	400	
Signal Transd. in Health and Disease	6	2	600	
Synthetic Approaches in Med. Chemistry	6	2	500	
Drug Action	6	3	400	
Project Computational Design and Synthes	6	4	400	
Biomolecular Simulation in MC&T	6	5+6	400	
Literature and Colloquium (compulsory choice 1 of 5 - 6 EC required)				
	Physical-Organic Chemistry CompAided Drug Design and Virtual Scr. Drug-induced Stress and Cellular Respons Mass Spectrometry Signal Transd. in Health and Disease Synthetic Approaches in Med. Chemistry Drug Action Project Computational Design and Synthes Biomolecular Simulation in MC&T	Physical-Organic Chemistry6CompAided Drug Design and Virtual Scr.6Drug-induced Stress and Cellular Respons6Mass Spectrometry6Signal Transd. in Health and Disease6Synthetic Approaches in Med. Chemistry6Drug Action6Project Computational Design and Synthes6Biomolecular Simulation in MC&T6	Physical-Organic Chemistry61CompAided Drug Design and Virtual Scr.62Drug-induced Stress and Cellular Respons62Mass Spectrometry62Signal Transd. in Health and Disease62Synthetic Approaches in Med. Chemistry62Drug Action63Project Computational Design and Synthes64Biomolecular Simulation in MC&T65+6	

Course code	Course component	EC	Period	Level
XM_432570	Literature thesis and Coll. DDS BDA	6	Ac. Year	600
XM_432571	Literature thesis and Coll. DDS MT, CMCT	6	Ac. Year	600
XM_432572	Lit. thesis and Coll. DDS MT, DD&SA	6	Ac. Year	600
XM_432623	Literature thesis and Coll. DDS MC, DD&S	6	Ac. Year	600
XM_432624	Literature thesis and Coll. DDS MC, DDTF	6	Ac. Year	600

DDS Research Project (choose 1 of 5 - 24 EC required)

DDS Research Project (choose 1 of 5 - 24 EC required)				
Course code	Course component	EC	Period	Level
XM_432727	Major Research Project Biomolecular	24	Ac. Year	600
XM_432728	Major Research Project DDS Medicinal Che	24	Ac. Year	600
XM_432729	Major Research Project DDS Medicinal Che	24	Ac. Year	600

XM_432730	Major Research Project DDS Molecular Tox	24	Ac. Year	600
XM_432731	Major Research Project DDS Molecular Tox	24	Ac. Year	600
Recommended of	pptional Courses (12 EC required)			
Course code	Course component	EC	Period	Level
AM_470575	Societal entrepreneurship H&L sciences	6	1	500
AM_470584	Business management	6	2	500
AM_470589	Policy, Politics and Participation	6	2	500
AM_1180	Clinical Development and Clinical Trials	3	3	500
AM_1179	Epidemiology	3	3	500
Deficiency Cours	ses			
Course code	Course component	EC	Period	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	400

If the student wishes to take a different course than the units of study listed, advance permission must be obtained in writing from the Examinations Board.

Lecturers will show in the study material what has been changed based upon the course evaluation of the former year

Article 4.5 Sequence of examinations

A student may not take part in the examinations and/or practical exercises for the components referred to below until he/she has passed the examinations of the components specified:

- Students may start on a minor or major research project, go on in-company training or start an internship once 18 credits of the programme have been completed.
- The Examination Board may, in consultation with the Master's Programme Coordinator, require that a specific subject must be included in the 18 credits referred to in Article 4.1.6.

Article 4.6 Participation in practical exercise and tutorials

- 1. In the case of a practical training, the student must attend at least 100 % of the practical sessions. Should the student attend less than 100 %, he/she must repeat the practical training, or the Examinations Board may have one or more supplementary assignments issued.
- 2. In the case of tutorials with assignments, the student must attend at least 100 % of the tutorials. Should the student attend less than 100 %, he/she must repeat the study group, or the Examinations Board may have one or more supplementary assignments issued.
- 3. In exceptional circumstances, the Examinations Board may, at the request of the student, permit an exemption from this requirement if, in the opinion of the Board, the assessment of the intended skills is also possible with a lesser percentage of participation, with or without the imposition of supplementary requirements.

Article 4.7 Maximum exemption

Not applicable

Article 4.8 Validity period for results

No further specific provisions to article 4.8 of TER part A.

Article 4.9 Degree

Students who have successfully completed their Master's final examination are awarded a Master of Science degree. The degree awarded is stated on the diploma. If it is a joint degree, this will also be stated on the diploma.

5. Transitional and final provisions

Article 5.1 Amendments and periodic review

1. Any amendment to the Teaching and Examination Regulations will be adopted by the faculty board after taking advice, and if necessary approval by the Programme Committee concerned. A copy of the advice will be sent to the authorized representative advisory body.

- 2. An amendment to the Teaching and Examination Regulations requires the approval of the authorized representative advisory body if it concerns components not related to the subjects of Section 7.13, paragraph 2 sub a to g and v of the WHW and the requirements for admission to the Master's programme.
- 3. An amendment to the Teaching and Examination Regulations can only pertain to an academic year that is already in progress if this does not demonstrably damage the interests of students.

Article 5.2 Transitional provisions

Notwithstanding the current Teaching and Examination Regulations, the following transitional provisions apply for students who started the programme under a previous set of Teaching and Examination Regulations:

Article 5.3 Publication

- 1. The faculty board will ensure the appropriate publication of these Regulations and any amendments to them.
- 2. The Teaching and Examination Regulations will be posted on VUnet.

Article 5.4 Effective date

These Regulations enter into force with effect from 1 September 2017.

Advice from Programme Committee, on 20 April 2017

Advice from Examination Board of the Faculty of Science, on 10 November 2016

Approved by authorized representative advisory body, on 6 July 2017

Adopted by the Board of the Faculty of Science, on 21 July 2017.

Appendix I

List of articles that must be included in the OER pursuant to the WHW (articles in framed boxes):

Art. 4.11 7.13, para 2 sub d Art. 5.1 7.13, para 2 sub u Art. 5.2 7.13, para 2 sub m Section B 7.13, para 2 sub i Art. 2.1 7.13, para 2 sub b, c Art. 2.2 7.13, para 2 sub c Art. 3.1 7.25, para 4 Art. 4.1 7.13, para 2 sub a Art. 4.2 7.13, para 2 sub a Art. 4.3 7.13, para 2 sub a Art. 4.4 7.13, para 2 sub b, h, j, l Art. 4.3 7.13, para 2 sub b, h, j, l Art. 4.4 7.13, para 2 sub b, h, j, l Art. 4.4 7.13, para 2 sub b, h, j, l Art. 4.5 7.13, para 2 sub b, h, j, l Art. 4.6 7.13, para 2 sub b, h, j, l Art. 4.8 7.13, para 2 sub b, h, j, l	Section A Art. 1.1 Art. 2.1 Art. 3.2 Art. 4.2 Art. 4.3 Art. 4.3 Art. 4.4 Art. 4.5 Art. 4.5 Art. 4.7 Art. 4.8 Art. 4.9 Art. 4.10 Art. 4.11	7.13, para 1, WHW 7.13, para 2 sub w 7.13, para 2 sub e 7.13, para 2 sub h and l 7.13, para 2 sub h and l 7.13, para 2 sub n 7.13, para 2 sub o 7.13, para 2 sub j, h 7.13, para 2 sub r 7.13, para 2 sub k 7.13, para 2 sub k 7.13, para 2 sub p 7.13, para 2 sub q 7.13, para 2 sub q 7.13, para 2 sub a
Art. 5.27.13, para 2 sub mSection BArt. 1.27.13, para 2 sub iArt. 2.17.13, para 1 sub b, cArt. 2.27.13, para 1 sub b, cArt. 3.17.25, para 4Art. 4.17.13, para 2 sub aArt. 4.27.13, para 2 sub aArt. 4.37.13, para 2 sub e, h, j, lArt. 4.47.13, para 2 sub e, h, j, lArt. 4.57.13, para 2 sub sArt. 4.67.13, para 2 sub d		
Art. 1.27.13, para 2 sub iArt. 2.17.13, para 1 sub b, cArt. 2.27.13, para 2 sub cArt. 3.17.25, para 4Art. 4.17.13, para 2 sub aArt. 4.27.13, para 2 sub e, h, j, lArt. 4.37.13, para 2 sub tArt. 4.47.13, para 2 sub tArt. 4.57.13, para 2 sub sArt. 4.67.13, para 2 sub d	Art. 5.2	
	Art. 1.2 Art. 2.1 Art. 2.2 Art. 3.1 Art. 4.1 Art. 4.2 Art. 4.3 Art. 4.4 Art. 4.5	7.13, para 1 sub b, c 7.13, para 2 sub c 7.25, para 4 7.13, para 2 sub a 7.13, para 2 sub a 7.13, para 2 sub e, h, j, l 7.13, para 2 sub t 7.13, para 2 sub e, h, j, l 7.13, para 2 sub s