

Teaching and Examination Regulations

MASTER's Degree Programme

Drug Discovery and Safety

B. Programme-specific section

Academic year 2016-2017

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Section B: Programme-specific section**1. General provisions****Article 1.1 Definitions**

In addition to the definitions as laid down in article 1 of TER part A, the following abbreviations are also used in TER part B:

Examination	Abbr.
<i>Exam</i>	E
<i>Report, essay</i>	R
<i>Presentation</i>	Pres
<i>Practical</i>	Prac
<i>Assignment</i>	A
<i>Field Work</i>	FW

Teaching method	Abbr.
<i>Lecture</i>	HC
<i>Tutorial</i>	WC
<i>Study group</i>	WG
<i>Computer Lab</i>	CPR
<i>Practical</i>	PR
<i>Field Work</i>	VW
<i>Excursion</i>	EXC
<i>Training</i>	TR

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). The intake date(s) mentioned in this paragraph ensure(s) that a programme can be completed within the nominal study duration set for the programme.

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/education variant (C-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, 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 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).
3. If the degree programme consists of distinct tracks or specializations, the Examination Board will assess whether the applicant has met the applicable requirements.
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

1. 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
 - 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 certain conditions, 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

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 Variant

Compulsory courses (12 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
AM_1182	Research methods for analyzing problems	6	1	WC, CPR, HC	E, A	400
AM_470587	Science and Communication	6	1	WG, HC	E, A	500

Education Variant**Master Leraar VHO Scheikunde (60 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
O_MLPEERGR_1	Peergroup 1		1+2+3, 4+5+6	WG		400
O_MLDIDAC_1	Didactiek 1	6	1	WG, HC		400
O_MLPRAK_1	Praktijk 1	6	1	WG		400
O_MLPROZ_1	Praktijkonderzoek 1	3	3	HC, WG		400
O_MFDIDAC_1	Didactiek 1	6	4	WG, HC		400
O_MFPRAK_1	Praktijk 1	6	4	WG		400
O_MLDIDAC_2	Didactiek 2	6	2+3	HC, WG		400
O_MLPRAK_2	Praktijk 2	9	2+3	WG		400
O_MFDIDAC_3	Didactiek 3	9	1+2+3	HC		
O_MFPRAK_3	Praktijk 3	15	1+2+3	WG		400
O_MFPROZ_1	Praktijkonderzoek 1	3	6	HC, WG		
O_MFPROZ_2	Praktijkonderzoek 2	6	1+2+3	WC, HC		
O_MFDIDAC_2	Didactiek 2	6	5+6	WG, HC		400
O_MFPRAK_2	Praktijk 2	9	5+6			400
O_MLPEERGR_2	Peergroup 2		3+4+5	WG		
O_MLDIDAC_3	Didactiek 3	9	4+5+6	WG, HC		400
O_MLPRAK_3	Praktijk 3	15	4+5+6			400
O_MLPROZ_2	Praktijkonderzoek 2	6	4+5+6	WC, HC		400

Research Variant DDTF**Compulsory courses (24 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432574	Colloq. and Liter. Thesis DDS MC, DDTF	12	Ac. Year		R	600
X_435047	High-Throughput Screening	6	2	HC	E, A, Pres	500
X_432535	Signal Transd. in Health and Disease	6	2	HC	E, A, Pres	600

Compulsory courses research master DDS (24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432721	ADMET	6	1	HC	E, R	400
X_432538	Chemical Biology	6	1	CPR, HC	E, R, Pres	400
X_432724	Drug Action	6	3	HC	E, A	400
X_432734	Project Computational Design and Synthes	6	4	PR, HC	E, R	400

Research Variant DDSA**Compulsory courses (24 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432575	Literature thesis and Coll. DDS MT, DDSA	12	Ac. Year		R, Pres	600
X_432536	Drug-induced Stress and Cellular Respons	6	2	HC	E	500
X_435681	Advanced Course on DDSA	6	5+6	WC	E, A	500

Compulsory courses research master DDS (24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432721	ADMET	6	1	HC	E, R	400
X_432538	Chemical Biology	6	1	CPR, HC	E, R, Pres	400
X_432724	Drug Action	6	3	HC	E, A	400
X_432734	Project Computational Design and Synthes	6	4	PR, HC	E, R	400

Research Variant CMCT**Compulsory courses (24 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432673	Comp.-Aided Drug Design and Virtual Scr.	6	2	HC	E, R, Pres	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	HC	E	400
XM_432576	Colloq. and Liter. Thesis DDS MC, CMCT	12	Ac. Year		R	600

Compulsory courses research master DDS (24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432721	ADMET	6	1	HC	E, R	400
X_432538	Chemical Biology	6	1	CPR, HC	E, R, Pres	400
X_432724	Drug Action	6	3	HC	E, A	400
X_432734	Project Computational Design and Synthes	6	4	PR, HC	E, R	400

Research Variant DD&S**Compulsory courses (24 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_435663	Physical-Organic Chemistry	6	1	WC, HC	E, A	400
X_435685	Synthetic Approaches in Med. Chemistry	6	2	HC	E	500
XM_432573	Literature thesis and Coll. DDS MC, DD&S	12	Ac. Year		R	600

Compulsory courses research master DDS (24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432721	ADMET	6	1	HC	E, R	400
X_432538	Chemical Biology	6	1	CPR, HC	E, R, Pres	400
X_432724	Drug Action	6	3	HC	E, A	400
X_432734	Project Computational Design and Synthes	6	4	PR, HC	E, R	400

Research Variant Biomarkers and C.C.A.**Compulsory courses (18 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432577	Literature thesis and Coll. DDS BDA	12	Ac. Year		R, Pres	600
X_432765	Bio-analysis & Clinical Diagnostics	6	1	HC	E	400

Compulsory courses research master DDS (24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432721	ADMET	6	1	HC	E, R	400
X_432538	Chemical Biology	6	1	CPR, HC	E, R, Pres	400
X_432724	Drug Action	6	3	HC	E, A	400
X_432734	Project Computational Design and Synthes	6	4	PR, HC	E, R	400

Double Degree**Compulsory courses (24 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432721	ADMET	6	1	HC	E, R	400
X_432538	Chemical Biology	6	1	CPR, HC	E, R, Pres	400
X_432724	Drug Action	6	3	HC	E, A	400
X_432734	Project Computational Design and Synthes	6	4	PR, HC	E, R	400

Copenhagen Programme (60 credits required)**Social Variant****Compulsory courses (48 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
AM_471147	Internship Societal Specialisation	30	Ac. Year			600
AM_470571	Analysis of Governmental Policy	6	1	CPR, WG, HC	E, R, Pres	500
AM_1182	Research methods for analyzing problems	6	1	WC, CPR, HC	E, A	400
AM_470572	Communication, Org. and Management	6	2	WG, HC	E, A	500

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.

Article 4.4 Electives

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

The student can take of the following electives:

Communication Variant**Specialisation courses (30 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432721	ADMET	6	1	HC	E, R	400
X_432538	Chemical Biology	6	1	CPR, HC	E, R, Pres	400
X_435663	Physical-Organic Chemistry	6	1	WC, HC	E, A	400
X_432673	Comp.-Aided Drug Design and Virtual Scr.	6	2	HC	E, R, Pres	400
X_432536	Drug-induced Stress and Cellular Respons	6	2	HC	E	500
X_435604	Mass Spectrometry	6	2			400
X_432535	Signal Transd. in Health and Disease	6	2	HC	E, A, Pres	600
X_435685	Synthetic Approaches in Med. Chemistry	6	2	HC	E	500
X_432724	Drug Action	6	3	HC	E, A	400
X_432734	Project Computational Design and Synthes	6	4	PR, HC	E, R	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	HC	E	400

Literature and Colloquium (compulsory choice 1 of 5 - 6 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432572	Lit. thesis and Coll. DDS MT, DD&SA	6	Ac. Year		R, Pres	600
XM_432570	Literature thesis and Coll. DDS BDA	6	Ac. Year		R, Pres	600
XM_432623	Literature thesis and Coll. DDS MC, DD&S	6	Ac. Year		R	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 Project (choose 1 of 5 - 24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432727	Major Research Project Biomolecular	24	Ac. Year			600
XM_432728	Major Research Project DDS Medicinal Che	24	Ac. Year		R, Pres, Prac	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		R, Pres	600

Deficiency Courses

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	HC	E	400

Internship communication: choose one (30 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
AM_1163	Reflective Practice Int. SC. Comm.	30	Ac. Year		R, Pres	600
AM_1162	Research Internship Science Comm.	30	Ac. Year		R, Pres	600

Recommended choice

Course code	Course component	EC	Period	Teaching method	Examination format	Level
AM_470572	Communication, Org. and Management	6	2	WG, HC	E, A	500
AM_1002	Science in Dialogue	6	2	WC, HC, WG	E, A, R	500
AM_471014	Science Journalism	6	2	CPR, WG, HC	A	500
AM_470590	Science Museology	6	3	VW, WC, WG, HC	A, Pres	500

Education Variant**Specialisation Courses in consultation with Master's Coordinator (30 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432721	ADMET	6	1	HC	E, R	400
X_432538	Chemical Biology	6	1	CPR, HC	E, R, Pres	400
X_435663	Physical-Organic Chemistry	6	1	WC, HC	E, A	400
X_432673	Comp.-Aided Drug Design and Virtual Scr.	6	2	HC	E, R, Pres	400
X_432536	Drug-induced Stress and Cellular Respons	6	2	HC	E	500
X_435604	Mass Spectrometry	6	2			400
X_432535	Signal Transd. in Health and Disease	6	2	HC	E, A, Pres	600
X_435685	Synthetic Approaches in Med. Chemistry	6	2	HC	E	500
X_432724	Drug Action	6	3	HC	E, A	400
X_432734	Project Computational Design and Synthes	6	4	PR, HC	E, R	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	HC	E	400

Literature and Colloquium (compulsory choice 1 of 5 - 6 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432572	Lit. thesis and Coll. DDS MT, DD&SA	6	Ac. Year		R, Pres	600
XM_432570	Literature thesis and Coll. DDS BDA	6	Ac. Year		R, Pres	600
XM_432623	Literature thesis and Coll. DDS MC, DD&S	6	Ac. Year		R	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 Project (choose 1 of 5 - 24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432727	Major Research Project Biomolecular	24	Ac. Year			600
XM_432728	Major Research Project DDS Medicinal Che	24	Ac. Year		R, Pres, Prac	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		R, Pres	600

Deficiency Courses

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	HC	E	400

Research Variant DDTF**Ethics and Academic Skills (6 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	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	WG, HC	R	600
AM_1182	Research methods for analyzing problems	6	1	WC, CPR, HC	E, A	400
AM_470587	Science and Communication	6	1	WG, HC	E, A	500
AM_470575	Societal entrepreneurship H&L sciences	6	1	WG, HC	E, A	500
AM_470584	Business management	6	2	CPR, HC	E, R, Pres	500
AM_470572	Communication, Org. and Management	6	2	WG, HC	E, A	500
AM_1002	Science in Dialogue	6	2	WC, HC, WG	E, A, R	500
AM_471014	Science Journalism	6	2	CPR, WG, HC	A	500
X_432625	Tutoring Students	3	2	HC	R	400
AM_1180	Clinical Development and Clinical Trials	3	3	WG, HC	E	500
AM_1179	Epidemiology	3	3	CPR, WG, HC	E, A	500
AM_470707	Ethics in life sciences	3	3	WG, HC	E, R, Pres	400
X_400592	Scientific Writing in English	3	2, 6	WC, HC	A	400

Research Project (42 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	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 optional courses (24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XMU_435653	Supramolecular Chemistry and Nanomat.	6	1	HC		400
X_432673	Comp.-Aided Drug Design and Virtual Scr.	6	2	HC	E, R, Pres	400
X_432536	Drug-induced Stress and Cellular Respons	6	2	HC	E	500
X_435604	Mass Spectrometry	6	2			400
X_435612	Applied Theoretical Chemistry	6	4	CPR	R	500
X_435666	Molecular Computational Chemistry	6	5	PR, HC	Pres	400
X_435045	Protein Analysis	6	5	HC	E	500
X_435681	Advanced Course on DDSA	6	5+6	WC	E, A	500
X_432664	Biomolecular Simulation in MC&T	6	5+6	HC	E	400
XM_432501	Applied Theoretical Chemistry	12	Ac. Year		R	500
XM_432621	Company Training DDS-DDTF	18	Ac. Year		R, Pres, Prac	500
XM_432747	Company Training DDS-DDTF	24	Ac. Year		R, Pres, Prac	500
XM_432752	Company Training DDS-DDTF	30	Ac. Year		R, Pres, Prac	500
XM_432836	Company Training DDS-DDTF	36	Ac. Year			500
XM_432678	Internship abroad DDS-DDTF	18	Ac. Year		R, Pres, Prac	500
XM_432757	Internship abroad DDS-DDTF	24	Ac. Year		R, Pres, Prac	500
XM_432762	Internship abroad DDS-DDTF	30	Ac. Year		R, Pres, Prac	500
XM_432840	Internship abroad DDS-DDTF	36	Ac. Year			500
XM_432705	Min Res Proj DDS Med.Chem.DD&S	30	Ac. Year		R, Pres, Prac	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		R, Pres, Prac	500
XM_432693	Minor Research Project DDS MC, DD&S	24	Ac. Year		R, Pres, Prac	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		R, Pres	500
XM_432592	Minor Research Project DDS MT, DD&SA	30	Ac. Year		R, Pres	500
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year		R, Pres	500

Deficiency Courses

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_435675	Principles of Pharmaceutical Sc./ PharCh	6	1	HC	E	400

Research Variant DDSA**Ethics and Academic Skills (6 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	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	WG, HC	R	600
AM_1182	Research methods for analyzing problems	6	1	WC, CPR, HC	E, A	400
AM_470587	Science and Communication	6	1	WG, HC	E, A	500
AM_470575	Societal entrepreneurship H&L sciences	6	1	WG, HC	E, A	500
AM_470584	Business management	6	2	CPR, HC	E, R, Pres	500
AM_470572	Communication, Org. and Management	6	2	WG, HC	E, A	500

AM_1002	Science in Dialogue	6	2	WC, HC, WG	E, A, R	500
AM_471014	Science Journalism	6	2	CPR, WG, HC	A	500
X_432625	Tutoring Students	3	2	HC	R	400
X_400592	Scientific Writing in English	3	2, 6	WC, HC	A	400
AM_1180	Clinical Development and Clinical Trials	3	3	WG, HC	E	500
AM_1179	Epidemiology	3	3	CPR, WG, HC	E, A	500
AM_470707	Ethics in life sciences	3	3	WG, HC	E, R, Pres	400

Research Project (42 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432559	Major Research Project DDS MT, DD&SA	42	Ac. Year		R, Pres	600
XM_432561	Major Research Project DDS MT, DD&SA	48	Ac. Year		R, Pres	600
XM_432562	Major Research Project DDS MT, DD&SA	54	Ac. Year		R, Pres	600
XM_432563	Major Research Project DDS MT, DD&SA	60	Ac. Year		R, Pres	600

Recommended optional courses (24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XMU_435653	Supramolecular Chemistry and Nanomat.	6	1	HC		400
X_432673	Comp.-Aided Drug Design and Virtual Scr.	6	2	HC	E, R, Pres	400
X_432535	Signal Transd. in Health and Disease	6	2	HC	E, A, Pres	600
X_435612	Applied Theoretical Chemistry	6	4	CPR	R	500
X_435666	Molecular Computational Chemistry	6	5	PR, HC	Pres	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	HC	E	400
XM_432501	Applied Theoretical Chemistry	12	Ac. Year		R	500
XM_432672	Company Training DDS-DD&SA	18	Ac. Year		R, Pres	500
XM_432746	Company Training DDS-DD&SA	24	Ac. Year		R, Pres	500
XM_432751	Company Training DDS-DD&SA	30	Ac. Year		R, Pres	500
XM_432834	Company Training DDS-DD&SA	36	Ac. Year		R, Pres	500
XM_432677	Internship abroad DDS-DDSA	18	Ac. Year		R, Pres	500
XM_432756	Internship abroad DDS-DDSA	24	Ac. Year		R, Pres	500
XM_432761	Internship abroad DDS-DDSA	30	Ac. Year		R, Pres	500
XM_432841	Internship abroad DDS-DDSA	36	Ac. Year		R, Pres	500
XM_432705	Min Res Proj DDS Med.Chem.DD&S	30	Ac. Year		R, Pres, Prac	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		R, Pres, Prac	500
XM_432693	Minor Research Project DDS MC, DD&S	24	Ac. Year		R, Pres, Prac	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		R, Pres	500
XM_432592	Minor Research Project DDS MT, DD&SA	30	Ac. Year		R, Pres	500
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year		R, Pres	500

Deficiency Courses

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	HC	E	400

Research Variant CMCT**Ethics and Academic Skills (6 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	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	WG, HC	R	600

AM_1182	Research methods for analyzing problems	6	1	WC, CPR, HC	E, A	400
AM_470587	Science and Communication	6	1	WG, HC	E, A	500
AM_470575	Societal entrepreneurship H&L sciences	6	1	WG, HC	E, A	500
AM_470584	Business management	6	2	CPR, HC	E, R, Pres	500
AM_470572	Communication, Org. and Management	6	2	WG, HC	E, A	500
AM_1002	Science in Dialogue	6	2	WC, HC, WG	E, A, R	500
AM_471014	Science Journalism	6	2	CPR, WG, HC	A	500
X_432625	Tutoring Students	3	2	HC	R	400
X_400592	Scientific Writing in English	3	2, 6	WC, HC	A	400
AM_1180	Clinical Development and Clinical Trials	3	3	WG, HC	E	500
AM_1179	Epidemiology	3	3	CPR, WG, HC	E, A	500
AM_470707	Ethics in life sciences	3	3	WG, HC	E, R, Pres	400

Research Project (42 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432553	Major Research Project DDS MT, CMCT	42	Ac. Year			600
XM_432556	Major Research Project DDS MT, CMCT	48	Ac. Year			600
XM_432557	Major Research Project DDS MT, CMCT	54	Ac. Year			600
XM_432558	Major Research Project DDS MT, CMCT	60	Ac. Year			600

Recommended optional courses (24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XMU_435653	Supramolecular Chemistry and Nanomat.	6	1	HC		400
X_432536	Drug-induced Stress and Cellular Respons	6	2	HC	E	500
X_432535	Signal Transd. in Health and Disease	6	2	HC	E, A, Pres	600
X_435612	Applied Theoretical Chemistry	6	4	CPR	R	500
XM_435111	Density Functional Theory for Chemists	6	4		E	500
X_435666	Molecular Computational Chemistry	6	5	PR, HC	Pres	400
XM_432501	Applied Theoretical Chemistry	12	Ac. Year		R	500
XM_432619	Company Training DDS-CMCT	18	Ac. Year		R, Pres, Prac	500
XM_432744	Company Training DDS-CMCT	24	Ac. Year		R, Pres, Prac	500
XM_432749	Company Training DDS-CMCT	30	Ac. Year		R, Pres, Prac	500
XM_432835	Company Training DDS-CMCT	36	Ac. Year			500
XM_435112	Density Functional Theory for Chemists	12	Ac. Year		E	500
XM_432675	Internship abroad DDS-CMCT	18	Ac. Year		R, Pres, Prac	500
XM_432754	Internship abroad DDS-CMCT	24	Ac. Year		R, Pres, Prac	500
XM_432759	Internship abroad DDS-CMCT	30	Ac. Year		R, Pres, Prac	500
XM_432838	Internship abroad DDS-CMCT	36	Ac. Year			500
XM_432705	Min Res Proj DDS Med.Chem.DD&S	30	Ac. Year		R, Pres, Prac	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		R, Pres, Prac	500
XM_432693	Minor Research Project DDS MC, DD&S	24	Ac. Year		R, Pres, Prac	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		R, Pres	500
XM_432592	Minor Research Project DDS MT, DD&SA	30	Ac. Year		R, Pres	500
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year		R, Pres	500

Deficiency Courses

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	HC	E	400

Research Variant DD&S**Ethics and Academic Skills (6 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	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	WG, HC	R	600
AM_1182	Research methods for analyzing problems	6	1	WC, CPR, HC	E, A	400
AM_470587	Science and Communication	6	1	WG, HC	E, A	500
AM_470575	Societal entrepreneurship H&L sciences	6	1	WG, HC	E, A	500
AM_470584	Business management	6	2	CPR, HC	E, R, Pres	500
AM_470572	Communication, Org. and Management	6	2	WG, HC	E, A	500
AM_1002	Science in Dialogue	6	2	WC, HC, WG	E, A, R	500
AM_471014	Science Journalism	6	2	CPR, WG, HC	A	500
X_432625	Tutoring Students	3	2	HC	R	400
X_400592	Scientific Writing in English	3	2, 6	WC, HC	A	400
AM_1180	Clinical Development and Clinical Trials	3	3	WG, HC	E	500
AM_1179	Epidemiology	3	3	CPR, WG, HC	E, A	500
AM_470707	Ethics in life sciences	3	3	WG, HC	E, R, Pres	400

Research Project (42 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432509	Major Research Project DDS MC, DD&S	42	Ac. Year		R, Pres, Prac	600
XM_432544	Major Research Project DDS MC, DD&S	48	Ac. Year		R, Pres, Prac	600
XM_432545	Major Research Project DDS MC, DD&S	54	Ac. Year		R, Pres, Prac	600
XM_432546	Major Research Project DDS MC, DD&S	60	Ac. Year		R, Pres, Prac	600

Recommended optional courses (24 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432673	Comp.-Aided Drug Design and Virtual Scr.	6	2	HC	E, R, Pres	400
X_432536	Drug-induced Stress and Cellular Respons	6	2	HC	E	500
X_432535	Signal Transd. in Health and Disease	6	2	HC	E, A, Pres	600
X_435666	Molecular Computational Chemistry	6	5	PR, HC	Pres	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	HC	E	400
XM_432671	Company Training DDS-DD&S	18	Ac. Year		R, Pres, Prac	500
XM_432745	Company Training DDS-DD&S	24	Ac. Year		R, Pres, Prac	500
XM_432750	Company Training DDS-DD&S	30	Ac. Year		R, Pres, Prac	500
XM_432833	Company Training DDS-DD&S	36	Ac. Year		R, Pres, Prac	500
XM_432676	Internship abroad DDS-DD&S	18	Ac. Year		R, Pres, Prac	500
XM_432755	Internship abroad DDS-DD&S	24	Ac. Year		R, Pres, Prac	500
XM_432760	Internship abroad DDS-DD&S	30	Ac. Year		R, Pres, Prac	500
XM_432839	Internship abroad DDS-DD&S	36	Ac. Year		R, Pres, Prac	500
XM_432705	Min Res Proj DDS Med.Chem.DD&S	30	Ac. Year		R, Pres, Prac	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		R, Pres, Prac	500
XM_432693	Minor Research Project DDS MC, DD&S	24	Ac. Year		R, Pres, Prac	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		R, Pres	500
XM_432592	Minor Research Project DDS MT, DD&SA	30	Ac. Year		R, Pres	500
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year		R, Pres	500

Research Variant Biomarkers and C.C.A.**Ethics and Academic Skills (6 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	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	WG, HC	R	600
AM_1182	Research methods for analyzing problems	6	1	WC, CPR, HC	E, A	400
AM_470587	Science and Communication	6	1	WG, HC	E, A	500
AM_470575	Societal entrepreneurship H&L sciences	6	1	WG, HC	E, A	500
AM_470584	Business management	6	2	CPR, HC	E, R, Pres	500
AM_470572	Communication, Org. and Management	6	2	WG, HC	E, A	500
AM_1002	Science in Dialogue	6	2	WC, HC, WG	E, A, R	500
AM_471014	Science Journalism	6	2	CPR, WG, HC	A	500
X_432625	Tutoring Students	3	2	HC	R	400
X_400592	Scientific Writing in English	3	2, 6	WC, HC	A	400
AM_1180	Clinical Development and Clinical Trials	3	3	WG, HC	E	500
AM_1179	Epidemiology	3	3	CPR, WG, HC	E, A	500
AM_470707	Ethics in life sciences	3	3	WG, HC	E, R, Pres	400

Choose one of three, depending on Master's project (in consultation with Master's Coordinator) (6 credits required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_435047	High-Throughput Screening	6	2	HC	E, A, Pres	500
X_435604	Mass Spectrometry	6	2			400
X_435045	Protein Analysis	6	5	HC	E	500

Compulsory Choice Research Project (Major) including report (42 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	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	Teaching method	Examination format	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		R, Pres, Prac	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		R, Pres, Prac	500
XM_432693	Minor Research Project DDS MC, DD&S	24	Ac. Year		R, Pres, Prac	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		R, Pres	500
XM_432592	Minor Research Project DDS MT, DD&SA	30	Ac. Year		R, Pres	500
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year		R, Pres	500
X_432673	Comp.-Aided Drug Design and Virtual Scr.	6	2	HC	E, R, Pres	400
X_432536	Drug-induced Stress and Cellular Respons	6	2	HC	E	500

X_432535	Signal Transd. in Health and Disease	6	2	HC	E, A, Pres	600
X_435666	Molecular Computational Chemistry	6	5	PR, HC	Pres	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	HC	E	400

Deficiency Courses

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	HC	E	400

Double Degree**Optional courses (18 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432689	Minor Research Project DDS BDA	18	Ac. Year			500
XM_432696	Minor Research Project DDS MC, DDTF	18	Ac. Year			500
XM_432507	Minor Research Project DDS MT, CMCT	18	Ac. Year			500
XM_432620	Minor Research Project DDS MT, DD&SA	18	Ac. Year		R, Pres	500
X_432765	Bio-analysis & Clinical Diagnostics	6	1	HC	E	400
X_435663	Physical-Organic Chemistry	6	1	WC, HC	E, A	400
X_432673	Comp.-Aided Drug Design and Virtual Scr.	6	2	HC	E, R, Pres	400
X_432536	Drug-induced Stress and Cellular Respons	6	2	HC	E	500
X_432535	Signal Transd. in Health and Disease	6	2	HC	E, A, Pres	600
X_435685	Synthetic Approaches in Med. Chemistry	6	2	HC	E	500
X_435681	Advanced Course on DDSA	6	5+6	WC	E, A	500
X_432664	Biomolecular Simulation in MC&T	6	5+6	HC	E	400

Thesis Choice 1 out of 6 (12 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432573	Literature thesis and Coll. DDS MC, DD&S	12	Ac. Year		R	600
XM_432574	Colloq. and Liter. Thesis DDS MC, DDTF	12	Ac. Year		R	600
XM_432575	Literature thesis and Coll. DDS MT, DDSA	12	Ac. Year		R, Pres	600
XM_432576	Colloq. and Liter. Thesis DDS MC, CMCT	12	Ac. Year		R	600
XM_432577	Literature thesis and Coll. DDS BDA	12	Ac. Year		R, Pres	600

Ethics and Academic Skills (6 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	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	WG, HC	R	600
AM_1182	Research methods for analyzing problems	6	1	WC, CPR, HC	E, A	400
AM_470587	Science and Communication	6	1	WG, HC	E, A	500
AM_470575	Societal entrepreneurship H&L sciences	6	1	WG, HC	E, A	500
AM_470584	Business management	6	2	CPR, HC	E, R, Pres	500
AM_470572	Communication, Org. and Management	6	2	WG, HC	E, A	500
AM_1002	Science in Dialogue	6	2	WC, HC, WG	E, A, R	500
AM_471014	Science Journalism	6	2	CPR, WG, HC	A	500
X_432625	Tutoring Students	3	2	HC	R	400
X_400592	Scientific Writing in English	3	2, 6	WC, HC	A	400
AM_1180	Clinical Development and Clinical Trials	3	3	WG, HC	E	500
AM_1179	Epidemiology	3	3	CPR, WG, HC	E, A	500
AM_470707	Ethics in life sciences	3	3	WG, HC	E, R, Pres	400

Deficiency Courses

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	HC	E	400

Social Variant**Specialisation courses (30 EC required)**

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_432721	ADMET	6	1	HC	E, R	400
X_432538	Chemical Biology	6	1	CPR, HC	E, R, Pres	400
X_435663	Physical-Organic Chemistry	6	1	WC, HC	E, A	400
X_432673	Comp.-Aided Drug Design and Virtual Scr.	6	2	HC	E, R, Pres	400
X_432536	Drug-induced Stress and Cellular Respons	6	2	HC	E	500
X_435604	Mass Spectrometry	6	2			400
X_432535	Signal Transd. in Health and Disease	6	2	HC	E, A, Pres	600
X_435685	Synthetic Approaches in Med. Chemistry	6	2	HC	E	500
X_432724	Drug Action	6	3	HC	E, A	400
X_432734	Project Computational Design and Synthes	6	4	PR, HC	E, R	400
X_432664	Biomolecular Simulation in MC&T	6	5+6	HC	E	400

Literature and Colloquium (compulsory choice 1 of 5 - 6 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432570	Literature thesis and Coll. DDS BDA	6	Ac. Year		R, Pres	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		R, Pres	600
XM_432623	Literature thesis and Coll. DDS MC, DD&S	6	Ac. Year		R	600
XM_432624	Literature thesis and Coll. DDS MC, DDTF	6	Ac. Year			600

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

Course code	Course component	EC	Period	Teaching method	Examination format	Level
XM_432727	Major Research Project Biomolecular	24	Ac. Year			600
XM_432728	Major Research Project DDS Medicinal Che	24	Ac. Year		R, Pres, Prac	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		R, Pres	600

Recommended optional Courses (12 EC required)

Course code	Course component	EC	Period	Teaching method	Examination format	Level
AM_470575	Societal entrepreneurship H&L sciences	6	1	WG, HC	E, A	500
AM_470584	Business management	6	2	CPR, HC	E, R, Pres	500
AM_470589	Policy, Politics and Participation	6	2	WG, HC	R, Pres	500
AM_1180	Clinical Development and Clinical Trials	3	3	WG, HC	E	500
AM_1179	Epidemiology	3	3	CPR, WG, HC	E, A	500

Deficiency Courses

Course code	Course component	EC	Period	Teaching method	Examination format	Level
X_435675	Principles of Pharmaceutical Sc./ PharCH	6	1	HC	E	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.

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**

As laid down in 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 from the relevant Board of Studies. 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 2016.

Advice from Board of Studies on 1 July 2016

Advice from Examination Board of the Faculty of Sciences on 5 July 2016

Approved by authorized representative advisory body on 30 June 2016

Adopted by the Board of the Faculty of Earth and Life Sciences / of Sciences on 14 July 2016.

Appendix I

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

Section A

Art. 1.1	7.13, para 1, WHW
Art. 2.1	7.13, para 2 sub w
Art. 3.2	7.13, para 2 sub e
Art. 4.2	7.13, para 2 sub h and l
Art. 4.3	7.13, para 2 sub n
Art. 4.4	7.13, para 2 sub o
Art. 4.5	7.13, para 2 sub j, h
Art. 4.7	7.13, para 2 sub r
Art. 4.8	7.13, para 2 sub k
Art. 4.9	7.13, para 2 sub p
Art. 4.10	7.13, para 2 sub q
Art. 4.11	7.13, para 2 sub a
Art. 5.1	7.13, para 2 sub u
Art. 5.2	7.13, para 2 sub m

Section B

Art. 1.2	7.13, para 2 sub i
Art. 2.1	7.13, para 1 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 e, h, j, l
Art. 4.3	7.13, para 2 sub t
Art. 4.4	7.13, para 2 sub e, h, j, l
Art. 4.5	7.13, para 2 sub s
Art. 4.6	7.13, para 2 sub d
Art. 4.8	7.13, para 2 sub k