

Courses in the first study year MSc Drug Sciences (64 CP)

Modules / Courses	CP	Semester
1. Introduction and Basis of Human Diseases (8 CP)		
a. Molecular and Pathologic Basis of Disease (L)	3	Autumn
b. Cancer: Basics, Cause and Therapy (L)	2	Autumn
c. Genetic Approaches in Biomedical Research (L)	1	Autumn
d. Case Studies in Drug Sciences (S)	1	Autumn
e. Drug Sciences (S)	1	Autumn /Spring (Attend twice)
2. General Skills and Experimental Tools (5 CP)		
a. Molecular Modeling in Drug Design (L)	1	Spring
b. Computer Modeling of Adverse Effects (L)	1	Autumn
c. Biostatistics and Experimental Planning (L)	2	Autumn
d. Regulatory Aspects for Approval of Therapeutics (L)	1	Spring
3. Target Identification/Validation to Discovery of Modulators (8 CP)		
a. Mechanisms of Drug Action (L)	2	Autumn
b. Target Validation, and Identification of Target Modulators as Exemplified by Novel Immunotherapeutics (L)	1	Autumn
c. Concepts of Medicinal Chemistry (L)	2	Autumn
d. Development of Therapeutic Antibodies (L)	1	Autumn
e. From Novel Targets to Novel Therapeutic Modalities (L)	2	Spring
4. Translating Pharmacology and Drug Safety to Humans (12 CP)		
a. Mechanisms of Toxicity (L)	1	Autumn
b. Early Safety Assessment and Alternatives to Animal Testing, 3Rs (L) ..	1	Autumn
c. Pharmacogenomics (L)	1	Spring
d. Organ directed Toxicity (L)	1	Spring
e. Reproductive Toxicology (L)	1	Spring
f. Psychopharmacology and Neurotoxicology (L)	1	Spring
g. Immunosafety (L)	1	Spring
h. Drug Metabolism and Pharmacokinetics (L)	1	Autumn
i. Animal Experimentation for Regulatory Purposes (L)	2	Autumn
j. Safety Assessment for "First-in-Human Clinical Trials" (L)	2	Spring
5. Clinical Drug Development: the Basis for Market Approval (8 CP)		
a. Clinical Toxicology (L)	1	Autumn
b. Good Clinical Practice (L)	1	Autumn
c. Special Topics of Clinical Pharmacology (L)	2	Autumn
d. Industrial Pharmacy (L)	2	Autumn
e. Drug Delivery and Targeting (L)	2	Autumn

6. Practical Training (8 CP)		
Laboratory Methods in Drug Sciences (P)	8	Spring
7. Elective subjects (total 15 CP¹)		Autumn /Spring
The following are for specialist toxicology training (recognized for certification as professional toxicologist in accordance with the Swiss Register of Toxicologists http://www.swisstox.ch/swisstox-de/register/reglement.php)		
a. Chemical Risk Assessment (L)	1	Spring
b. Specific Toxic Agents (L)	1	Autumn
c. Environmental Toxicology: Compounds, mechanisms, bioaccumulation, effects (L)	1	Spring
d. Environmental Toxicology: Effects on organisms and populations (L)	1	Spring
e. Food Toxicology and Risk Assessment (L)	1	Spring
Further elective subjects (recommended lectures from the Department of Pharmaceutical Sciences):		
f. Bioactive Compounds in Nutritional Plants (L)	1	Autumn
g. Clinical Chemistry (L)	1	Autumn
h. Evaluation of Compound Properties (S) - cancelled for spring semester 2018	1	Spring 19
i. Information Retrieval (P)	1	Spring
j. International Workshop or Conference (Learning contract)	1	Autumn /Spring
k. Modern Cancer Therapy (L)	1	Spring
l. Natural Toxins, and Toxin Producing Organisms (L)	1	Autumn
m. NMR in Drug Discovery (L)	1	Autumn
n. Scientific Writing (S)	3	Spring
o. Analytics in the Pharmaceutical Industry (L) - new from 2018.....	1	Spring
Total	64	

Legend:

CP	ECTS credit points
P	Practical course
S	Seminar
L	Lecture

¹ Of the 15 CPs in the elective subject, at least 11 must be obtained within the faculty (Pharmacological Sciences lectures). Maximum 4 CPs can be acquired outside the faculty, through self-administration activities towards the University (max. 1 CP) or in tutorial activities (requires a study contract through MOnA).

Courses in the first study year MSc Drug Sciences (56 CP)

Modules / Courses	CP	Semester
Master thesis (50 CP)		
Master thesis (incl. preparation of written report)*	50	Autumn & Spring
Masterprüfung (4 CP)		
Master examination (incl. preparation)**	4	Subsequently
1. Introduction and Basis of Human Diseases (1 CP)		
e. Drug Sciences (S)	1	Autumn or Spring
2. General Skills and Experimental Tools (1 CP)		
e. Research Projects in Drug Sciences (S) (to be attended during Master's Thesis in 3 rd or 4 th semester)	1	Autumn or Spring
Total	56	

* A Master work contract must be completed before beginning the Master thesis

(<http://philnat.unibas.ch/dokumente/masterstudium>)

** Application for oral Master thesis examination must be submitted on the completed form

(<http://philnat.unibas.ch/dokumente/masterstudium>) at the latest when the thesis report is submitted.

Legend:

CP ECTS credit points

P Practical course

S Seminar

L Lecture