

Learning Agreement MSc HST

Major: Neurosciences (NS)

Matr. no. & student's name:	
Tutor's name:	
Start of study program:	

Major Profile 'Neurosciences'

Neurosciences focuses on the development, anatomy, plasticity and diseases of the nervous system, the functions of simple and complex neuronal networks, processes like memory, emotions, addiction or behavior in animal models and humans. Computational neuroscience and neuroinformatics develop predictive theories based on experimental data of how neurons work, how brains build themselves, and how complex networks function in perception, cognition, action, and in disease. These models are also used to implement key principles of brain structure and function in artificial technology.

Master students with a major in Neuroscience receive a broad training, which makes them familiar with conceptual and methodological approaches from the cellular and molecular level to the whole organism. Within the Neuroscience Center Zurich (ZNZ, see www.neuroscience.uzh.ch) scientists from both the ETH Zürich and the University of Zürich, as well as the University Hospital, cover this field on all levels, from basic molecular and cell biology to complex circuit analysis, model building, behavioral biology and human studies.

The successful completion of the Major in Neurosciences prepares the students for a professional career in scientific research areas concerned with the function of the central nervous system. It provides a solid scientific background for further academic studies towards a PhD followed by postdoctoral training, but also provides the graduates with a scientific profile desired for competitive positions in the fields of biomedical, pharmaceutical, computer or microelectronic industry, respectively.

Compulsory Courses of the Major

				CP		semester	exam
x	376-0300-00	Translational Science for Health and Medicine	Goldhahn	3	2G	AS	wSE
x	376-0302-01	GCP Basic Course (Modules 1 and 2) (or TRREE combination 1/2.1/3.1/3.2/CH-Supplement)	Senti	1	1G	AS	uSP
x	376-0302-00	Practicing Translational Science (Req.: Translational Science ...)	Goldhahn	2	4A	SS	gSP
Total Core Courses				6			

Glossary:

V = lecture
G = lecture with exercise
U = exercise
S = seminar
K = colloquium
P = practical/laboratory course
A = independent project
D = diploma thesis

AS = autumn semester
SS = spring semester
A/S = autumn or spring semester

wSE / oSE = written / oral Session Examination
wEE / oEE = written / oral End-of-semester Examination
gSP / uSP = graded / ungraded Semester Performance

Elective Courses of the Major

Elective courses that are counted for the Bachelor diploma (please tick column BSc) cannot count for the Master diploma, too.

			CP		sem.	exam	BSc
<input type="checkbox"/>	227-0447-00	Image Analysis and Computer Vision	Konukoglu	6	4VU	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	227-1037-00	Introduction to Neuroinformatics	Mante	6	3VU	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	227-1047-00	Consciousness: from Philosophy to Neuroscience (University of Zurich, INI410)	Kiper	3	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-0221-00	Methods and Concepts in Human Systems Neuroscience and Motor Control (Req.: Neural Control of Movement and ...)	Altermatt	4	3P	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1177-00	Human Factors I	Menozzi	3	2V	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-1179-00	Applications of Cybernetics in Ergonomics	Menozzi	1	1U	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1305-00	Development of the Nervous System (University of Zurich, BIO344)	Stoekli	3	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1305-01	Neural Systems for Sensory, Motor and Higher Brain Functions	Schratt	3	2V	AS	wEE <input type="checkbox"/>
<input type="checkbox"/>	376-1309-00	Disorders of Social Cognition	Ramsey	2	2G	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1414-00	Current Topics in Brain Research (HS)	Mansuy	1	2K	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1504-00	Physical Human Robot Interaction (pHRI)	Lambercy	4	4VU	AS	oSE <input type="checkbox"/>
<input type="checkbox"/>	376-1661-00	Ethics of Life Sciences and Biotechnology	Blasimme	3	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	551-0309-00	Concepts in Modern Genetics	Barral	6	4V	AS	wEE <input type="checkbox"/>
<input type="checkbox"/>	551-0317-00	Immunology I	Kopf	3	2V	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	551-0319-00	Cellular Biochemistry (Part I)	Kutay	3	2V	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	752-4009-00	Molecular Biology of Foodborne Pathogens	Loessner	3	2V	AS	wEE <input type="checkbox"/>
<input type="checkbox"/>	752-6403-00	Nutrition and Performance	Mettler	2	2V	AS	wEE <input type="checkbox"/>
<input type="checkbox"/>	327-2125-00	Microscopy Training SEM I – Introduction to SEM	Zeng	2	3P	A/S	uSP <input type="checkbox"/>
<input type="checkbox"/>	327-2126-00	Microscopy Training TEM I – Introduction to TEM	Zeng	2	3P	A/S	uSP <input type="checkbox"/>
<input type="checkbox"/>	376-0816-00	Applied Human Research Project Management	Lustenberger	4	3G	A/S	uSP <input type="checkbox"/>
<input type="checkbox"/>	w/o no.	Writing your Master's Thesis: Natural Sciences and Engineering C1-C2	Diverse	2	2V	A/S	gSP <input type="checkbox"/>
<input type="checkbox"/>	w/o no.	LTK Module 1: Introductory Course in Laboratory Animal Science (only with agreement of supervisor)	Diverse	2	A/S		
<input type="checkbox"/>	151-0638-00	MaP Dist. Lecture Series on Engineering with Living Materials	Katzschmann	1	2S	SS	uSP <input type="checkbox"/>
<input type="checkbox"/>	227-0390-00	Elements of Microscopy	Stampanoni	4	3G	SS	oSE <input type="checkbox"/>
<input type="checkbox"/>	227-0395-00	Neural Systems	Hahnloser	6	4VU	SS	wSE <input type="checkbox"/>
<input type="checkbox"/>	227-1034-00	Computational Vision (University of Zurich, INI402)	Kiper	6	4VU	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	252-0312-00	Mobile Health and Activity Monitoring	Holz	6	5VA	SS	wEE <input type="checkbox"/>
<input type="checkbox"/>	363-1130-00	Digital Health in Practice (University of Zurich)	Uni-Doz.	3	2V	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-0202-00	Neural Control of Movement and Motor Learning	Wenderoth	4	3G	SS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-1150-00	Clinical Challenges in Musculoskeletal Disorders	Leunig	2	2G	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1178-00	Human Factors II	Menozzi	3	2V	SS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-1306-00	Clinical Neuroscience (University of Zurich, BIO389)	Diverse	3	3G	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1307-00	Translational Neuroscience	Bohacek	6	4V	SS	wEE <input type="checkbox"/>
<input type="checkbox"/>	376-1345-00	Learning and Memory: From Molec. to Circuits	Winterer	3	2G	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1347-00	Bioinformatic Approaches to Regulatory Genomics and Epigenomics	Germain	4	4GA	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1400-00	Transfer of Technologies into Neurorehabilitation	Bruno	3	2V	SS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-1414-01	Current Topics in Brain Research (FS)	Helmchen	1	2K	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1624-00	Practical Methods in Biofabrication	Zenobi-Wong	5	4P	SS	gSP <input type="checkbox"/>

				CP		sem.	exam	BSc
<input type="checkbox"/>	376-1660-00	Scientific Writing, Reporting and Communication	Taylor	3	2V	SS	gSP	<input type="checkbox"/>
<input type="checkbox"/>	376-1986-00	Bayesian Data Analysis and Models of Behavior (University of Zurich, DOEC0829)	Polania	3	2S	SS	gSP	<input type="checkbox"/>
<input type="checkbox"/>	529-0059-00	Nanoscale Molecular Imaging	Kumar	3	2G	SS	oSE	<input type="checkbox"/>
<input type="checkbox"/>	535-0534-00	Drug, Society and Public Health (in German)	Steurer	1	1V	SS	gSP	<input type="checkbox"/>
<input type="checkbox"/>	551-0318-00	Immunology II (Req.: Immunology I)	Oxenius	3	2V	SS	wSE	<input type="checkbox"/>
<input type="checkbox"/>	551-0320-00	Cellular Biochemistry (Part II)	Barral	3	2V	SS	wSE	<input type="checkbox"/>
<input type="checkbox"/>	551-0326-00	Cell Biology	Werner	6	4V	SS	wSE	<input type="checkbox"/>
<input type="checkbox"/>	701-1704-01	Health Impact Assessment: Concepts and Case Studies	Winkler	3	2V	SS	wSE	<input type="checkbox"/>
<input type="checkbox"/>	701-1708-00	Infectious Disease Dynamics	Regös	4	2V	SS	oEE	<input type="checkbox"/>

	Additional Electives			CP		sem.	exam
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Total Elective Courses of the Major	(min. 22 CP)
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Elective Courses in Science in Perspective

				CP		semester	exam
<input type="checkbox"/>
<input type="checkbox"/>

Total Elective Courses Science in Perspective	(min. 2 CP)
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Practical Training (job or research oriented)

			CP	semester
<input type="checkbox"/>	376-2110-00	Practical Training 12 Weeks	15	34P
<input type="checkbox"/>	376-2111-00	Practical Training 8 Weeks	10	23P
<input type="checkbox"/>	376-2112-00	Practical Training 4 Weeks	5	11P

Total Practical Training	(min. 15 CP)
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Research Internship

			CP	semester
x	376-2100-00	Research Internship (min. 12 weeks full time equivalent) <i>Planned location:.....</i>	15	36A

Total Research Internship	15
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Master Thesis

			CP	semester
x	376-2000-00	Master Thesis (max. 28 weeks full time (incl. 2 weeks holyday), start not before BSc completed) <i>Planned location:.....</i>	30	71D

Total Master Thesis	30
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Comments (e.g. Additional Admission Requirements)

Zurich,

Signed
Student Tutor