

Learning Agreement MSc HST

Major: Human Movement Science and Sport (HMSS)

Matr. no. & student's name:			
Tutor's name:			
Start of study program:		LD Sport:	<input type="checkbox"/> yes <input type="checkbox"/> no

Qualification Profile 'Human Movement Science and Sport'

At the interface of biosciences, health sciences, medicine and technology, 'Human Movement Science and Sport' focuses on the study of whole body functioning from young to old age, in health and disease. Emphasis is given to understanding all aspects of human activity by integrating basic knowledge from molecular and cellular processes, inter- and intracellular signaling, cell-cell and organ-organ communication and from biomechanical principles. This includes the understanding of acute responses of the various processes to the moving body and of their adaptation to specific training. This knowledge serves to advance the understanding of age- and sex-dependent healthy human functioning but also of common complex diseases and disabilities, e.g. metabolic, respiratory and heart diseases, neurological and orthopedic disorders. A core component of the program is also to develop preventive and therapeutic strategies for human diseases, disorders and disabilities. Participants of the programme will acquire experimental skills to investigate organ and neuro-muscular function as well as biomechanical properties of the moving human body.

The successful completion of the programme in 'Human Movement Science and Sport' prepares the student for a career in a variety of biomedical research areas. It provides a solid scientific background for an academic career via PhD and postdoctoral training, but it also provides graduates with a scientific and practical skill profile suitable for competitive positions in the fields of biomedicine, prevention and rehabilitation, health technologies, health organizations, as well as health and sports education.

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
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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

* = courses count as Sportscience for Auflagen LD Sport

Elective Courses I of the Major

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

In this case, elective courses II of maximum the same amount of CP can count as elective courses I to reach the 12 CP (-> please list below).

At least one of the following 5 courses to be selected					CP	sem.	exam	BSc
<input type="checkbox"/>	376-0225-00	Physical Activities and Health*	Knols		3	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1651-00	Clinical and Movement Biomechanics*	Singh		4	3G	AS	oSE <input type="checkbox"/>
<input type="checkbox"/>	752-6101-00	Dietary Etiologies of Chronic Disease	Zimmermann		3	2V	AS	wEE <input type="checkbox"/>
<input type="checkbox"/>	376-0224-00	Clinical Exercise Physiology (Req.: Sportphysiologie)	Spengler		3	2V	SS	wEE <input type="checkbox"/>
<input type="checkbox"/>	376-1306-00	Clinical Neuroscience (University of Zurich)	UZH		3	3V	SS	gSP <input type="checkbox"/>

At least one of the following 5 courses to be selected					CP	sem.	exam	BSc
		Methods and Concepts in Human Systems						
<input type="checkbox"/>	376-0221-00	Neuroscience and Motor Control (Req.: Neural Control of Movement and ...)	Altermatt		4	3P	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-0223-00	Advanced Topics in Exercise Physiology (Req.: Sportphysiologie)	Spengler		4	2S	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1168-00	Sports Biomechanics*	Lorenzetti		3	2V	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1660-00	Scientific Writing, Reporting and Communication	Taylor		3	2V	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1719-00	Statistics for Experimental Research			3	2V	SS	gSP <input type="checkbox"/>

Total Elective Courses I of the Major (min. 12 CP)

Elective Courses II of the Major

Elective courses II 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"/>	227-0385-10	Biomedical Imaging	Kozerke	6	5G	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	227-0386-00	Biomedical Engineering	Vörös	4	3G	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	227-0447-00	Image Analysis and Computer Vision	Konukoglu	6	4VU	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	363-0301-00	Work Design and Organizational Change	Bienefeld	3	2G	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	363-0790-00	Technology Entrepreneurship	Hacklin	2	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	363-1163-00	Developing Digital Biomarkers	Da Conceição	3	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-0121-00	Multiscale Bone Biomechanics	R. Müller	6	4S	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-0130-00	Praktikum Sportphysiologie* (Req.: Anat/Physiol., Physiol Lab)	Spengler	4	4P	AS	uSP <input type="checkbox"/>
<input type="checkbox"/>	376-0203-00	Bewegungs- und Sportbiomechanik*	Taylor	4	3G	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-0207-00	Exercise Physiology*	Spengler	4	3G	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-0208-00	Molecular and Cellular Biology of Exercise and Muscle Regeneration - Practical Aspects	Bar-Nur / De Bock	3	2G	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1033-00	Sportgeschichte*	Gisler	2	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1107-00	Sportpädagogik*	Herrmann	2	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1117-00	Sportpsychologie*	Gubelmann	2	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1127-00	Sportsoziologie*	Bürgi	2	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1176-00	Wearable and Mobile Technologies of the Future - Focus on Sports and Health	Menon	4	3G	AS	wEE <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"/>	376-1219-00	Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions	Riener	3	2V	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-1353-00	Nanostructured Materials Safety	Wick	2	1V	AS	wEE <input type="checkbox"/>
<input type="checkbox"/>	376-1661-00	Ethics of Life Sciences and Biotechnology	Blasimme	3	2V	AS	gSP <input type="checkbox"/>

			CP		sem.	exam	BSc
<input type="checkbox"/>	376-1714-00	Biocompatible Materials	Maniura	4	3V	AS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-1720-00	Application of MATLAB in the Human Mov. Sci.	van de Lang.	2	2G	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1722-00	Paraplegie und Sport	Perret	2	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1985-00	Trauma Biomechanics	Schmitt	4	3VU	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-2017-00	Biomechanik von Sportverletzungen und Rehab.	Schmitt	3	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	551-1153-00	Systems Biology of Metabolism (Req.: Syst. Biology)	Sauer	4	2V	AS	oEE <input type="checkbox"/>
<input type="checkbox"/>	752-3105-00	Physiol. Guided Food Struct. and Process Design	Fischer	3	2V	AS	gSP <input type="checkbox"/>
<input type="checkbox"/>	752-6105-00	Epidemiology and Prevention	Puhan	3	2V	AS	wEE <input type="checkbox"/>
<input type="checkbox"/>	752-6151-00	Public Health Concepts	Heusser	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"/>	376-1974-00	Colloquium in Biomechanics	Helgason	2	2K	A/S	uSP <input type="checkbox"/>
<input type="checkbox"/>	w/o number	Writing your Master's Thesis: Nat. Sci. Eng. C1-C2	Diverse	2	2V	A/S	gSP <input type="checkbox"/>
<input type="checkbox"/>	151-0638-00	MaP Dist. Lect. Ser. on Eng. with Living Materials	Katzschmann	1	2S	SS	uSP <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"/>	327-2224-00	MaP Dist. Lect. Ser. on Additive Manufacturing	Katzschmann	1	2S	SS	uSP <input type="checkbox"/>
<input type="checkbox"/>	363-1066-00	Designing Effect. Projects for Prom Health@Work	Bauer	3	2G	SS	gSP <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"/>	376-0131-00	Praktikum Biomechanik	Schütz	3	3P	SS	uSP <input type="checkbox"/>
<input type="checkbox"/>	376-0202-00	Neural Control of Movement and Motor Learn.*	Wenderoth	4	3G	SS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-0204-00	Trainingswissenschaften*	de Bruin	4	3G	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-0206-00	Biomechanik II	Taylor	4	3G	SS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-0905-00	Funktionelle Anatomie*	Wolfer	3	2V	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	Menozi	3	2V	SS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-1217-00	Rehabilitation Engineering I: Motor Functions	Riener	4	3VU	SS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-1308-00	Development Strategies for Medical Implants	Mayer	3	3VU	SS	oSE <input type="checkbox"/>
<input type="checkbox"/>	376-1347-00	Bioinf. Appr. to Regul. Genomics and Epigenetics	Germain	4	4GA	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1392-00	Mechanobiology: Implication for Development...	Shivashankar	3	2G	SS	wSE <input type="checkbox"/>
<input type="checkbox"/>	376-1397-00	Orthopaedic Biomechanics	R. Müller	3	2G	SS	oSE <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"/>	376-1620-00	Skeletal Repair (Req.: Biocompatible Materials)	Grad	3	3G	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1624-00	Practical Methods in Biofabrication	Zenobi-Wong	5	4P	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1721-00	Bone Biology and Consequ. for Human Health	Kuhn	2	2V	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	376-1986-00	Bayesian Data Anal. on Models of Behav. (UZH)	Polania	3	2S	SS	gSP <input type="checkbox"/>
<input type="checkbox"/>	402-0673-00	Physics in Med. Research: From Humans to Cells	B. Müller	6	3VU	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"/>	701-1704-01	Health Impact Assessm.: Concepts & Case Studies	Winkler	3	2V	SS	wSE <input type="checkbox"/>

Additional Electives II (e.g. add. elect. I)

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

Total Elective Courses II of the Major **(min. 10 CP)**

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	Tutor	15 34P
<input type="checkbox"/>	376-2111-00	Practical Training 8 Weeks	Tutor	10 23P
<input type="checkbox"/>	376-2112-00	Practical Training 4 Weeks	Tutor	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>	Tutor	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 holiday), start not before BSc completed) <i>Planned location:.....</i>	Superv./Tutor	30 71D

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

Zurich,

Signed
Student Tutor