Master of Science and Technology CSE BME

Biomedical engineering track

1st year - 70ECTS

1st Semester S7:

Name	Course unit code	Year	Semester	Hour	ECTS	Teacher/[Responsible]
Transport phenomena	TRPH	1	1	32	4	F. Schwander, P. Denis, C. Baron
Computer Sciences and Num. methods	CSNM	1	1	24	3	F. Schwander
Introduction to clinical medecine	CLMD	1	1	24	3	L. Dambricourt, A. Janet, F. Benmiloud, M. Lebret/[J. Fade, P. Berto]
Introduction to material science and structural design	MTSC	1	1	24	3	Y. Knapp, A. Bechikh
Introduction to biomedical signal processing	SIPR	1	1	24	3	C. Fossati, T. Gaidon
Engineering & biological systems	ENBS	1	1	24	3	P. Santucci
Wave propagation	WAPG	1	1	24	3	L. A. Castaneda
Industrial engineering & Soft skills	IES7	1	1	32	4	J. Zimmermann, L. Serfaty, A. Tinel / [J. Fade, P. Berto, F. Schwander]
Train'Eng in CSE	TCS7	1	1	62	6	Various lecturers/ [J. Fade, P. Berto, F. Schwander]
Languages	LAN7	1	1	20	2	B. Kehoe
Winter Lab internship	STG7	1	1	8 weeks	6	

2nd Semester S8:

Name	Course unit code	Year	Semester	Hour	ECTS	Teacher
The living bricks	LBRI	1	2	58	6	[M. Jaeger]
Imaging and wave therapy	IMAG	1	2	46	6	C. Fossati, E. Franceschini, C. Baron, H. Rigneault, P. Berto / [J. Fade]
Bioinformatics and data processing	BIOF	1	2	52	6	[J. Fade]
Bio Planet	BIOP	1	2	50	4	Various lecturers / [J. Fade]
Languages	LAN8	1	2	20	2	B. Kehoe

Name	Course unit code	Year	Semester	Hour	ECTS	Teacher
Summer internship	STG8	1	2	8 weeks	6	[J. Fade, P. Berto, F. Schwander]



The detailed syllabus of the second semester of 1st year (M1) can be downloaded here

2nd year - 70ECTS

3rd Semester S9:

Name	Course unit code	Year	Semester	Hour	ECTS	Teacher
Computer Sciences & data sciences	CSDS	2	1	24	3	V. Pesce
Advanced imaging/Advanced image processing (option.)	IMAB/IFPR	2	1	24	3	P. Berto, J. Fade, M. Roche
Biomechanics	BIOM	2	1	24	3	V. Deplano, D. Mazzoni, O. Boiron
Introduction to neurotechnologies	NEUR	2	1	40	5	P. Berto
Introduction to bioethics	ETIC	2	1	16	2	J. Fade
Numerical modeling for BME	NUMB	2	1	36	4	M. Brandenbourger, M. Rodriguez, J. Fade, F. Schwander
Advanced material sciences and structural design	AMID	2	1	36	5	Y. Knapp, A. Bechikh
Sensors & Telemedicine	TELM	2	1	24	3	A. Khalighi
Industrial engineering & Soft Skills	IES9	2	1	100	6	
Language	LAN9	2	1	20	2	B. Kehoe
Project & Seminars	PRO9	2	1	100	4	J. Fade / P. Berto

4th Semester S10:

Name	Course unit code	Year	Semester	Hour	ECTS	Teacher
Master thesis & internship	THES	2	2	4-6 months	30	

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