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	O. Boiron, F. Schwander
Computer Sciences and Num. methods	CSNM	1	1	24	3	B. Favier
Introduction to clinical medecine	CLMD	1	1	24	3	L. Dambricourt, A. Janet, C. Jacquet, M. Lebret/[J. Fade, O. Boiron]
Introduction to material science and structural design	MTSC	1	1	24	3	Y. Knapp, S. Bourgeois
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	45	4	J. Zimmermann, L. Serfaty, A. Tinel / [J. Fade, O. Boiron, F. Schwander]
Train'Eng in CSE	TCS7	1	1	62	6	Various lecturers/ [J. Fade, O. Boiron, F. Schwander]
Languages	LAN7	1	1	20	2	V. Hamel
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	78	6	/ [M. Jaeger]
Imaging and wave therapy	IMAG	1	2	68	5	C. Fossati, E. Franceschini, C. Baron, H. Rigneault, J. Fade / [J. Fade]
Bioinformatics	BIOF	1	2	68	5	/ [J. Fade]
Bio Planet	BIOP	1	2	46	6	Various lecturers / [J. Fade, M. Jaeger]
Languages	LAN8	1	2	20	2	V. Hamel

Name	Course unit code	Year	Semester	Hour	ECTS	Teacher
Summer internship	STG8	1	2	8 weeks	6	[J. Fade, O. Boiron, 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	2	1	24	3	J. Fade
Biomechanics	BIOM	2	1	24	3	V. Deplano
Advanced image processing	IFPR	2	1	24	3	M. Roche
Numerical modeling for BME	NUMB	2	1	24	3	M. Brandenbourger, M Rodriguez
Advanced material sciences and structural design	AMID	2	1	24	3	Y. Knapp, S. Bourgeois
Sensors & Telemedicine	TELM	2	1	12	1.5	A. Khalighi
Industrial engineering & Soft Skills	IES9	2	1	100	6	
Language	LAN9	2	1	20	2	V. Hamel
Project – Lab work	PRO9	2	1	80	2	
Seminars	SEM9	2	1		2	

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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