

## Studies Plan

### Microtechnique 2024-25

#### Block 1

Courses				Bachelor 3	Bachelor 4	Bachelor 5	Bachelor 6	Exam Session	Exam	Credit		
Lang.	Code	Sect.	Teacher	C	E	L	T	P	I			
	<b>Analyse numérique et optimisation</b>											
F	MATH-212	MA	Picasso		4h	2h				Sum	Written	6
	<b>Analysis III (for SV, MT)</b>											
E	MATH-203(a)	MA	Monin	2h	2h					Win	Written	4
	<b>Analysis IV (for SV, MT)</b>											
E	MATH-207(a)	MA	Zemel		2h	2h				Sum	Written	4
	<b>Elements of statistics for data science</b>											
F	EE-209	EL	Müllhaupt		2h	1h				Sum	Written	3
	<b>General physics : electromagnetism</b>											
F	PHYS-201(c)	PH	Boero	4h	2h					Win	Written	6

#### Block 2

Courses				Bachelor 3	Bachelor 4	Bachelor 5	Bachelor 6	Exam Session	Exam	Credit		
Lang.	Code	Sect.	Teacher	C	E	L	T	P	I			
	<b>Electronics I</b>											
F	EE-202	EL	Koukab Meinen	2h	1h	2h				Win	Written	4
	<b>Electronics II (for MT)</b>											
F	EE-203(c)	EL	Koukab Meinen		2h	1h	2h			Sum	Written	4
	<b>Logic systems (for MT)</b>											
F	EE-110	EL	Schmid	2h	1h					Win	During the semester	3
	<b>Materials engineering I</b>											
E	MSE-214	MX	Yee	2h	1h					Win	Written	3
	<b>Materials engineering II</b>											
F	MSE-215	MX	Bourban Stuer		1h	2h				Sum	Written	3
	<b>Mechanism Design I</b>											
F	MICRO-200	MT	Briand Henein Shea	4h	4h					Win	Written	8
	<b>Mechanism Design II</b>											
F	MICRO-201	MT	Henein		1h	3h				Sum	During the semester	4
	<b>Microcontrollers</b>											
F	MICRO-210	MT	Schmid		1h	1h	2h			Sum	During the semester	3

#### Block 3

Courses				Bachelor 3	Bachelor 4	Bachelor 5	Bachelor 6	Exam Session	Exam	Credit		
Lang.	Code	Sect.	Teacher	C	E	L	T	P	I			
	<b>Actuators and Electromagnetic systems I</b>											
F	MICRO-313	MT	Köchli Perriard			2h				Sum	Written	7
	<b>Actuators and Electromagnetic systems II</b>											
F	MICRO-314	MT	Hodder Köchli Perriard				2h	1h	2h	Sum	Written	7
	<b>Control systems and discrete-time control</b>											
F	ME-326	GM	Karimi Salzmann		4h	1h	1h			Win	Written	6
	<b>Signals and systems I (for</b>											

F	MT)	MICRO-310(a)	MT	Unser						2h 2h		Win	Written	4
<b>Signals and systems II (for MT)</b>														
F		MICRO-311(a)	MT	Vandergheynst						2h 2h		Sum	Written	4

#### Block 4

Courses				Bachelor 3			Bachelor 4			Bachelor 5			Bachelor 6			Exam Session	Exam	Credit												
Lang.	Code	Sect.	Teacher	C	E	L	T	P	I	C	E	L	T	P	I	C	E	L	T	P	I	C	E	L	T	P	I			
<b>Electronic circuits and systems</b>																														
F	EE-336	EL	Ionescu																									Win	Written	3
<b>Embedded Systems and Robotics</b>																														
F	MICRO-315	MT	Mondada																			1h	2h 3h					Sum	During the semester	6
<b>Optical engineering (for MT)</b>																														
F	MICRO-321(a)	MT	Achouri Martin																			2h 1h	3h					Win	Written	6

#### Block 5

Courses				Bachelor 3			Bachelor 4			Bachelor 5			Bachelor 6			Exam Session	Exam	Credit												
Lang.	Code	Sect.	Teacher	C	E	L	T	P	I	C	E	L	T	P	I	C	E	L	T	P	I	C	E	L	T	P	I			
<b>Manufacturing technologies</b>																														
E	MICRO-301	MT	Bellouard Subramanian																			2h 1h	1h					Sum	Written	4
<b>Microfabrication practicals</b>																														
E	MICRO-332	MT	Brugger Sayah																			2h						Win	During the semester	2
<b>Microfabrication technologies</b>																														
E	MICRO-331	MT	Brugger																			4h						Win	Written	4
<b>Sensors</b>																														
F	MICRO-330	MT	Boero Shea																			5h						Sum	Written	5

#### Groupe 1 : Options

Courses				Bachelor 3			Bachelor 4			Bachelor 5			Bachelor 6			Exam Session	Exam	Credit															
Lang.	Code	Sect.	Teacher	C	E	L	T	P	I	C	E	L	T	P	I	C	E	L	T	P	I	C	E	L	T	P	I						
<b>Advanced mechanisms for extreme environments</b>																																	
F	MICRO-372	MT	Cosandier																			2h 1h						Sum	Written	3			
<b>Advanced microfabrication practicals</b>																																	
E	MICRO-373	MT	Benea-Chelmus Bertsch Brugger Pu																									3h			Sum	During the semester	3
<b>Introduction to bioengineering</b>																																	
E	EE-526	EL	Maerkl																			2h 1h						Sum	Written	3			
<b>La science quantique : une vision singulière</b>																																	
F	MICRO-444	MT	Besse																			3h						Sum	Oral	3			
<b>Matrix analysis</b>																																	
F	EE-312	EL	Vandergheynst																			2h 2h						Sum	Written	4			
<b>Physics of semiconductor devices</b>																																	
F	MICRO-312	MT	Besse																			3h						Win	Oral	3			
<b>Software architecture</b>																																	
F	MICRO-371	MT	Ingram Silva																			2h	1h					Sum	Written	3			
<b>Wireless sensor practicals</b>																																	
E	MICRO-333	MT	Subramanian																									3h			Sum	During the semester	3

#### Transverse block HSS

Courses			Exam Session	Exam	Credit
Lang.	Code	Sect. Teacher			
	<b>SHS : Bachelor cycle BA6</b>				
F		SHS			2
	<b>HSS : Bachelor cycle BA5</b>				
F		SHS			2
	<b>HSS : Bachelor cycle BA4</b>				
F		SHS			2
	<b>HSS : Bachelor cycle BA3</b>				
F		SHS			2