Studies Plan

Mineur : Microtechnique 2025-26

Mandatory courses

Lang.	Courses Code	Sect.	Teacher	Exam Session	Exam	Credit
	Products design & systems engineering					
E	*MICRO-406*	*MT*	*Bellouard Charbon*	*Win*	*During the semester*	*10*

Minor : Microengineering

Lang.	Courses Code	Sect.	Teacher	Exam Session	Exam	Credit
	Advanced additive manufacturing technologies					
E	*MICRO-413*	*MT*	*Brugger Pu*	*Sum*	*Oral*	*4*
	Advanced mechanisms for extreme environments					
F	*MICRO-372*	*MT*	*Cosandier*	*Sum*	*Written*	*3*
	Advanced MEMS & microsystems					
E	*MICRO-534*	*MT*	*Briand*	*Sum*	*Oral*	*3*
	Applied and industrial robotics					
E	*MICRO-451*	*MT*	*Bouri*	*Sum*	*Oral*	*3*
	Bio-nano-chip design					
E	*EE-517*	*EL*	*Carrara*	*Win*	*Written*	*4*
	Computational motor control					
E	*MICRO-436*	*MT*	*Ijspeert*	*Sum*	*During the semester*	*4*
	Computational optical imaging					
E	*MICRO-421*	*MT*	*Psaltis*	*Sum*	*During the semester*	*4*
	Conceptual design of products and systems					
F	*MICRO-443*	*MT*	*Kejik*	*Sum*	*Oral*	*2*
	Continuous improvement of manufacturing systems					
E	*ME-498*	*GM*	*Kaboli*	*Sum*	*During the semester*	*5*
	Deep learning for optical imaging					
E	*MICRO-573*	*MT*		*Sum*	*During the semester*	*3*
	Embedded motor control					
F	*MICRO-510*	*MT*	*Hodder Köchli Perriard*	*Win*	*Oral*	*3*
	Fundamentals & processes for photovoltaic devices					
E	*MICRO-565*	*MT*	*Ballif*	*Sum*	*Written*	*3*
	Fundamentals of integrated photonic components					
E	*MICRO-471*	*MT*	*Benea-Chelmus*	*Win*	*Oral*	*4*
	Haptic human robot interfaces					
E	*MICRO-553*	*MT*	*Bouri Shokur*	*Sum*	*Oral*	*4*
	Introduction to additive manufacturing					
E	*ME-413*	*GM*	*Boillat Brugger Moser*	*Win*	*Written*	*3*

	Large-area electronics: devices and materials					
E	*MICRO-566*	*MT*		*Sum*	*Oral*	*3*
	Laser fundamentals and applications for engineers					
E	*MICRO-426*	*MT*	*Moser*	*Sum*	*Oral*	*3*
	Laser microprocessing					
E	*MICRO-520*	*MT*	*Hoffmann*	*Sum*	*Oral*	*2*
	Manufacturing systems and supply chain dynamics					
E	*MICRO-448*	*MT*	*Filliger Gallay*	*Sum*	*Oral*	*3*
	Materials processing with intelligent systems					
E	*MICRO-457*	*MT*	*Hoffmann Shevchik*	*Win*	*Oral*	*3*
	MEMS Actuator practicals					
E	*MICRO-501*	*MT*	*Bertsch Boero Brugger*	*Win*	*During the semester*	*3*
	MEMS sensors practicals					
E	*MICRO-503*	*MT*	*Bertsch Boero Brugger*	*Sum*	*During the semester*	*3*
	Metrology					
E	*MICRO-428*	*MT*	*Bruschini Charbon Fantner*	*Sum*	*Written*	*3*
	Metrology practicals					
E	*MICRO-429*	*MT*	*Bruschini Charbon Fantner*	*Sum*	*During the semester*	*3*
	Micro/Nanomechanical devices					
E	*ME-426*	*GM*	*Villanueva*	*Win*	*Written*	*4*
	Microengineering project I					
F	*MICRO-498*	*MT*	*Profs divers*	*Sum Win*	*During the semester*	*10*
	Nanophotonics					
E	*MICRO-516*	*MT*	*Iadanza Moselund*	*Sum*	*Oral*	*3*
	Nano-scale heat transfer					
E	*ME-469*	*GM*	*Tagliabue*	*Sum*	*During the semester*	*4*
	Nanotechnology					
E	*MICRO-530*	*MT*	*Boero Brugger*	*Sum*	*Oral*	*3*
	Nonlinear Control Systems					
F	*ME-523*	*GM*	*Müllhaupt*	*Win*	*Written*	*3*
	Nonlinear Optics					
E	*PHYS-501*	*MT*	*Roke*	*Sum*	*Written*	*4*
	Optical design with ZEMAX					
E	*MICRO-517*	*MT*	*Pu*	*Win*	*During the semester*	*3*
	Optical detectors					
E	*MICRO-523*	*MT*	*Bruschini*	*Win*	*Oral*	*3*
	Optical engineering (for MT)					
F	*MICRO-321(a)*	*MT*	*Achouri Martin*	*Win*	*Written*	*6*
	Optics laboratories (autumn)					
E	*MICRO-424*	*MT*	*Pu*	*Win*	*During the semester*	*3*
	Optics laboratories (spring)					
E	*MICRO-423*	*MT*	*Pu*	*Sum*	*During the semester*	*3*
	Organic and printed electronics					
E	*MICRO-505*	*MT*	*Briand Subramanian*	*Sum*	*Oral*	*2*
	Physical models for micro and nanosystems					
E	*EE-536*	*EL*	*Kis*	*Win*	*During the semester*	*2*

C : Course, E : Exercise, L : Lab, TP : Practical work, P : Course based project, I : Individual project, * : option course / F : French courses, D : Deutsch courses, E : English Courses / Sum : Summer, Win : Winter

	Physics of semiconductors devices					
F	*MICRO-312*	*MT*	*Besse*	*Win*	*Oral*	*3*
	Selected topics in advanced optics					
E	*MICRO-420*	*MT*	*Martin*	*Win*	*Oral*	*3*
	Smart sensors for IoT					
E	*EE-594*	*EL*		*Win*	*Written*	*3*
	System identification					
E	*ME-421*	*GM*	*Karimi*	*Sum*	*Written*	*3*

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