



MASTER - Biotechnologies

Biotechnologie synthétique (alternance)

Langue du parcours	Français		
ECTS	ECTS		
Volume horaire			
TP : 0h	TD : 0h	CI : 0h	CM : 0h
Formation initiale		Non	
Formation continue		Non	
Apprentissage		Oui	
Contrat de professionnalisation		Oui	

BS Alternance - M1

BS Alternance : Semestre 1

	ECTS	CM	CI	TD	TP	TE	Stage
UE BS Advanced biotechnology I	12 ECTS	74 h		24 h	8 h		
Immunology		20 h					
Immunotechnology		12 h					
Genetic engineering		26 h		14 h	8 h		
Genomics & epigenomics		18 h		10 h			
UE Methodology for research	12 ECTS	44 h		30 h			
Experimental design		14 h		12 h			
Statistics		10 h		10 h			
In silico protein engineering		6 h		16 h			
Critical scientific reading				8 h			
UE Humanities, Economy & Social sciences I	3 ECTS	26 h		24 h			
Anglais - S1 Master				16 h		60 h	
BioEthics		10 h					
Quality		12 h					
UE Practicals I	3 ECTS						
TP Génie génétique et Microbiologie					35 h		
Conception et production de biomédicaments I : pratique				5.5 h	18.5 h		

BS Alternance - Semestre 2

	ECTS	CM	CI	TD	TP	TE	Stage
UE BS Advanced Biotechnology II	9 ECTS						
Advanced statistics				10 h			
Computer sciences for biotechnologies		6 h		12 h	12 h		
Images in biology : Processing		12 h		12 h			
Metabolism & Biotechnologies for BT		20 h		4 h			
Neurobiotechnology		22 h					
UE Humanities, Economy & Social Sciences II	3 ECTS	10 h		20 h	9 h		
Anglais - S2 Master				16 h		60 h	
Projects in Bioethics				4 h	9 h		
National & International labor regulation		10 h					
UE Practicals II	9 ECTS	12 h			241 h		
TP Protein purification		6 h		4 h	38 h		
TP Cellular culture					24 h		
Synthetic microbiology practicals					55 h		
Synthetic microbiology		15 h					
UE Specialized project I (3 weeks)	6 ECTS				75 h		
Project in synthetic biology I					75 h		
UE IN1 : Internship I	3 ECTS						
Initiation à la recherche BS							

BS Alternance - M2

BS Alternance - Semestre 3

	ECTS	CM	CI	TD	TP	TE	Stage
BS Alternance : Specialized synthetic biotech I	6 ECTS						
Introduction to system biology		6 h		21 h			
Current topics in synthetic biology				12 h			
BS Alternance : Specialized synthetic biotech II	12 ECTS						
Introduction to data sciences		4 h		4 h	4 h		
High throughput approaches		20 h		8 h	2 h		
Human and molecular genetics		22 h					
Comparative and medical genomics		16 h		12 h			
Drug discovery and development : case studies			25.5 h	1.5 h			
BS Alternance : Humanities, Economy & Social sciences III	3 ECTS						
Intellectual property		12 h					
Coaching recherche emploi/alternance/stage		12.5 h					
Le médicament, les BPF, la vie entreprise : e-learning			10 h				
Découverte du monde professionnel				25 h			
Développement professionnel et connaissance de soi			20 h				
BS Alternance : Specialized projects II	9 ECTS						
Project New business		40 h		40 h			
Applied bioproduction for apprenticeship					105 h		

BS Alternance - Semestre 4

	ECTS	CM	CI	TD	TP	TE	Stage
Stage	30 ECTS						
Contrat d'apprentissage ou professionnel							