



UNIVERSITÀ  
DI TORINO

SCUOLA DI MEDICINA  
DIPARTIMENTO DI BIOTECNOLOGIE MOLECOLARI E SCIENZE PER LA SALUTE  
CORSO DI LAUREA MAGISTRALE IN MOLECULAR BIOTECHNOLOGY

MASTER PROGRAM IN MOLECULAR BIOTECHNOLOGY			
A.A. 2024/2025			
CURRICULUM MOLECULAR COMPUTATIONAL AND TRANSLATIONAL BIOTECHNOLOGY			
FIRST YEAR			
First Semester			
BIO0136	PHYSIOLOGY		5 ECTS
BIO0167	FUNCTIONAL GENOMICS		8 ECTS
		Molecular Dynamics of Cellular Processes	5
		The Genetic Basis of Cancer	3
BIO0143	GENOMICS AND EPIGENOMICS		10 ECTS
		Computational Genomics and Epigenomics	5
		Genomics and Epigenomics of Gene Regulation	5
BIO0115	INTERACTIONS AND GENE NETWORKS		5 ECTS
Second Semester			
BIO0175	BIOLOGY OF REGENERATION AND DEVELOPMENT		10 ECTS
		Innovative experimental models in developmental biology and pathology	5
		Stem Cell Biology	5
BIO0114	MOLECULAR IMMUNOLOGY		5 ECTS
BIO0171	IN VITRO DIAGNOSTICS: MOLECULAR PROFILING OF PROLIFERATIVE PROCESSES		5 ECTS
BIO0253	PROGRAMMING APPROACHES FOR BIOINFORMATICS		5 ECTS
BIO0159	STAGE I		6 ECTS
BIO0158	THESIS I		5 ECTS
SECOND YEAR			
First Semester			
BIO0254	ADVANCED CHEMICAL AND BIOINFORMATIC APPROACHES FOR HEALTH SCIENCES		8 ECTS
		Advanced data analysis for biological processes	3
		Mass Spectrometry	2
		Supramolecular and Bioinorganic Chemistry	3
BIO0169	THERAPEUTIC BIOTECHNOLOGY		8 ECTS
		The molecular basis of neurological therapies	3
		Therapeutic biotechnology applied to regenerative medicine	5
BIO0170	PHARMACOLOGY AND DRUG THERAPIES		8 ECTS
		Pharmacological Biotechnology	3
		Drug Discovery: basic principles	5
Second Semester			
BIO0164	BIOTECH COMPANIES MANAGEMENT		4 ECTS
BIO0165	STAGE II		6 ECTS
BIO0166	THESIS II		14 ECTS



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MASTER PROGRAM IN MOLECULAR BIOTECHNOLOGY FREELY CHOSEN COURSES A.Y. 2024/2025		
FOR BOTH CURRICULA		
First Semester		
BIO0185	CANCER METABOLISM	4 ECTS
BIO0218	METALS IN MEDICINE AND BIOLOGICAL SYSTEMS	4 ECTS
BIO0178	IMAGE ANALYSIS FOR BIOTECHNOLOGISTS	4 ECTS
BIO0192	MOLECULAR PHARMACOLGY	2 ECTS
BIO0213	IMAGING OF BRAIN DISEASE AND THERAPY	4 ECTS
Second Semester		
BIO00221	METHODS IN COMPUTATIONAL BIOLOGY	6 ECTS
	Methods in computational biology I	2
	Methods in computational biology II	2
	Methods in computational biology III	2
BIO0186	MOLECULAR MEDICINAL CHEMISTRY	6 ECTS
BIO0187	GENETIC MODELS OF HUMAN PATHOLOGY	6 ECTS
BIO0188	IN VIVO IMAGING OF CANCER THERAPY	4 ECTS
BIO0189	ENABLING TECHNOLOGIES IN DRUG SYNTHESIS AND PROCESSING	4 ECTS
BIO0219	PATHOLOGIC BASIS OF DISEASE	4 ECTS
BIO0120	SCIENTIFIC COMMUNICATION	4 ECTS
	Scientific Communication 1	1
	Scientific Communication 2	2
	Scientific Communication 3	1
BIO0191	THE HALLMARKS OF AGEING: MOLECULAR BASIS OF AGEING-ASSOCIATED SYNDROMES	4 ECTS
BIO0217	ADVANCED MASS SPECTROMETRY	4 ECTS
BIO0220	COMPUTATIONAL DRUG DISCOVERY	4 ECTS
BIO0249	BIOTECHNOLOGY IN AND TOWARDS ENVIRONMENTAL SUSTAINABILITY	4 ECTS
	Biology for sustainability	2
	Environmental sustainability	1
	Biology for sustainable agrifood system	1
ONLY FOR CURRICULUM MOLECULAR COMPUTATIONAL AND TRANSLATIONAL BIOTECHNOLOGY		
BIO0256	ELECTRON MICROSCOPY	2 ECTS
BIO0257	SURFACTANTS AND NANOPARTICLES	3 ECTS