GENERAL GENETICS

Code du cours Course Code			Titre du cours Course title					
BAC.EAINA.OTBIO.2110			**GENERAL GENETICS**					
Crédits **Credits**		**Période d'enseignement** **Teaching period**					**Année Académique** **Academic Year**	
6		spring					2022/2023	
Charge de travail **Student workload**	**Synchrone / Synchronous**	**Asynchrone / Asynchronous**	**Travail en équipe** **Team work**	**Activités pédagogiques / Pedagogical activities**	**Travail personnel** **Personal work**	**Coaching**	**Evaluation**	**Charge totale de travail** **Total workload**
	52,5	0	0	0	120	0	7,5	180
Programme **Program**			Global BBA					
Discipline **Discipline**								
Module			-					
Type de cours **Course type**			core					
Campus			Sophia					
Campus partenaire								
Course open to students in exchange								
Langue d'enseignement **Teaching language**		Anglais / English						
Responsable du cours **Course leader**			GRASSELLI Yan					
Pré-Requis **Prerequisite**			biological discovery II					
Nom des intervenants par campus **Instructor(s) names by campus**	Belo Horizonte							
	Lille							
	Paris							
	Raleigh							
	Sophia							
	Stellenbosch-Le Cap							
	Suzhou							
	Nanjing							

	Barcelone			
	Other			

Descriptif du cours / Course description	The General Genetics Course is dealing with characterization of genetic patrimonies, their organization and expression within different biological systems. Basics of biotechnologies will be overviewed. The lab taken as an additional course will be an asset.
Thémes / Topics	
Résultats d'apprentissage / Intended Learning Outcomes and Skills	**A l'issue de la formation, vous serez capable de / As a result of this module, you will be able to:** **Connaissances / Knowledge and Understanding (subject specific)** learn regularly as the course is made to be highly interactive **Aptitudes cognitives / Cognitive skills** be interested with concerns of resources, their limits and the solutions that technologies and science can bring. **Attitudes / Key transferable skills** be able to explain scientific problematic. This can lead to build pedagogical models **Ethical and social understanding** have good capacities in redaction and synthesis. Students are supposed to read scientific articles.
Contribution aux objectifs pédagogiques du programme / Contribution to learning objectives	Indiquer les learning objectives auxquels contribue le cours (en se basant sur le curriculum mapping du programme) / Indicate which learning objectives the course contributes to (based on the program curriculum mapping)
	Cours soumis à évaluation dans le cadre de l'Assurance of Learning pour l'année en cours ? Non / No
Evaluation des étudiants **Student Assessment**	**Evaluation finale (DS)** **Final examination** 40%
	(Précisez la nature pour l'évaluation finale / Explain type for final examination)
	Cliquez ici pour entrer du texte. QCM - Quiz: Epreuve sur table - Supervised exam: Présentation orale - Presentation: Rapport écrit/Dissertation - Report / Dissertation: Participation - Class participation: **Autre, précisez / Other, precise:**
	Contrôle continu 60%

	Continuous Assessment	
	préciser nature / Explain type	
	Cliquez ici pour entrer du texte. QCM - Quiz: Epreuve sur table - Supervised exam: Présentation orale - Presentation: Rapport écrit/Dissertation - Report / Dissertation: Participation - Class participation: **Autre, précisez / Other, precise:**	Nb midterms : 0
Méthodes d'enseignement **Teaching Methods**	**Format de cours / Course format**	
	Cours magistral / Lecture - TD / Tutorials **Autre, précisez / Other, precise:**	
	Activités d'apprentissage / Learning activities	
Plan de cours **Course Plan**	Introduction / Reminder History of genetics. DNA as base of genetic information. tutorials The genetic patrimony : 9: course and 14: application Molecular biology: DNA Structure, replication. Cellular biology: Mitosis, meiosis. Biotechnology: DNA Electrophoresis, Southern Blot. tutorials Evolution of the genetic patrimony Molecular biology: Mutation, recombination, duplication, translocation. Physiology, Anatomy: Phenotype, organism evolutions. tutorials No course tutorials Midterm 1 LAB Gene expression in Prokaryotic systems (1) Molecular biology: Transcription (mRNA synthesis, timelife), translation Biotechnology: RNA and Protein Electrophoresis, Northern and Western Blot. Tutorials Gene expression in Prokaryotic systems (2) Molecular biology: Transcription (mRNA synthesis, timelife), translation Biotechnology: RNA and Protein Electrophoresis, Northern and Western Blot. Tutorials Gene expression in Prokaryotic systems (3) Molecular biology: Transcription (mRNA synthesis, timelife), translation Molecular biology: Transcription (mRNA synthesis, timelife), translation Tutorials Molecular biology: An example of gene expression regulation: the lactose operon Cellular biology: Bacterial transformation, bacterial conjugation. Midterm 2 Tutorials Gene expression in Eukaryotic systems: a comparison with Prokaryotic systems	

	Molecular biology: Transcription, translation, protein maturation. Cellular biology: Division into compartments Biotechnology: Ultracentrifugation Tutorials Genetically modified prokaryotic organisms Molecular biology: artificial recombination. Biotechnology: transformation, transduction. Tutorials Genetically modified prokaryotic organisms Molecular biology: artificial recombination. Biotechnology: transformation, transduction. Tutorials Genetically modified eukaryotic organisms
Référence Académique / Academic reference	
Site(s) web / Web site(s)	
Licence(s) informatique(s)/ Computer licenses	

	Modalités de délivrance du cours (par campus si différent) Course delivery modes (per campus if different)					
Nombre CM Amphi / Number of Lectures	**Durée CM Amphi (en heures) / Lecture duration (in hours)**	**Nombre TD / Number of Tutorial classes**	**Durée TD (en heures) / Tutorial class duration (in hours)**	**Asynchrone / Asynchronous**	**Autres (Distance learning, etc…) (en heures) / Other (in hours)**	**Préciser les spécificités de programmation (TD journée, cadencement spécifique des séances) / Specify if full-day tutorial class, different schedules**
	Campus Sophia					
0	0	13	3	0	0	